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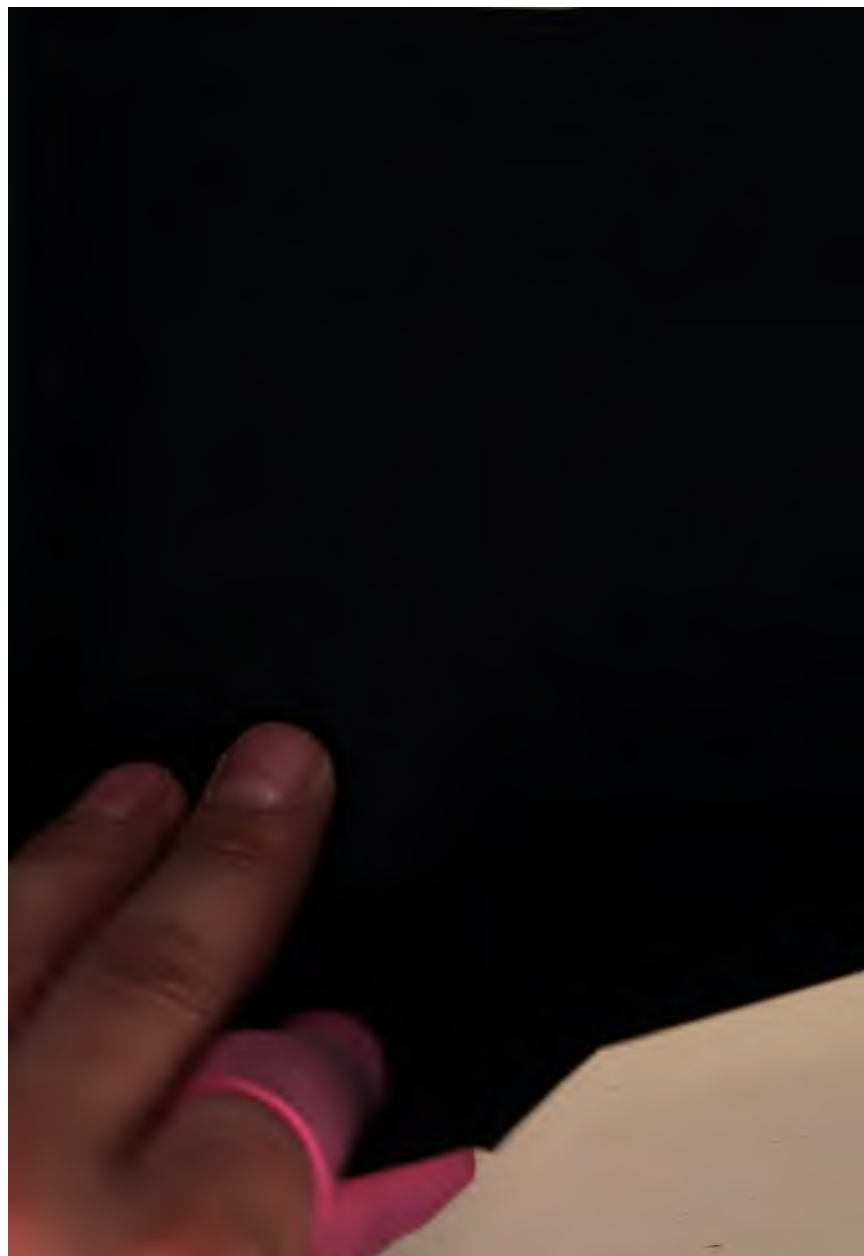
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THE ELEMENTS  
OF  
MODERN TACTICS

MAJOR WILKINSON JVAIV



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THE  
ELEMENTS OF MODERN TACTICS

*PRACTICALLY APPLIED TO ENGLISH FORMATIONS*

BY

WILKINSON J. SHAW, M.A.

CAPTAIN AND BREVET-MAJOR 102ND FUSILIERS; GARRISON INSTRUCTOR  
ALDERSHOT CAMP

*WITH TWENTY-FIVE PLATES AND MAPS*

BEING THE SECOND VOLUME OF

**Military Handbooks for Officers & Non-commissioned Officers**

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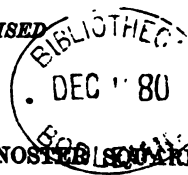
SUPERINTENDING OFFICER OF GARRISON INSTRUCTION

*SECOND EDITION, REVISED*

LONDON

C. KEGAN PAUL & CO., 1 PATERNOSTER SQUARE

1880



23/. c. 222<sup>c</sup>



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# PREFACE

TO

## THE SECOND EDITION.

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THE kindly recognition which this book has received shows that it satisfied, however imperfectly, a well-known want on the part of the profession generally. The first edition has been submitted to severe scrutiny at Aldershot and elsewhere. It has been carefully revised, and the present issue is submitted with the more confidence because it bears the mark of trial and approval.

Experience has, however, pointed to a certain possibility of error in the minds of those who may study its pages. Students of tactics should recognise the distinction between that subject and drill as laid down by authority. For instance, certain differences, more apparent than real, exist between the rules for advanced guards in the Field Exercises and those given in this book as well as by all English writers on Tactics. Again, a certain regulated pace of marching is necessarily laid down in the Field Exercises as that of Infantry. This will, of course, be adhered to for all parade purposes; but it is well

known that a column performing a tactical march up and down hill, sometimes on good ground, sometimes on rough, and often for long distances, neither does nor can adhere to the regulated pace. An average pace is therefore taken for tactical calculations at three miles an hour, a rate which is found by experience to be nearly accurate, certainly more accurate than the pace of parade movements.

In neither of the cases here selected as examples, nor in any other case, is it intended to challenge the decisions of the Field Exercises, but only to point out the modifications or developments which are forced upon every army during war.

It should also be understood that the rules laid down are intended only for fighting against an enemy supposed to be equal in arms, training, and courage. Speaking generally, the tactics to be used against masses of ill armed savages should be close formations with well protected flanks.

Some points of very great interest have not been treated in this volume because they are not even recognised up to this time by any English authority. Pre-eminent among these is the question how far the present system of tactics will be modified by the long-range fire of both Artillery and Infantry. Within the last few years guns have been constructed which shoot with almost perfect accuracy up to 4,000 or even 5,000 yards, while the Infantry rifle is found to do great execution up to 2,000 yards. No doubt advantage will be taken of these qualities of modern weapons in future wars.

But the final decision of combats must always take place at comparatively close quarters, and the officer who has mastered the handling of the three arms at moderate distances will be equal to the task of making the combinations required by any development of fire-arms.

The profession of arms has one peculiarity which lays a special burden on its members. No man is obliged to act on the advice of a lawyer, a physician, or a clergyman unless he pleases, and he may select his counsellor among the whole number of the profession. But during war, every individual officer and non-commissioned officer has his own responsibility for the lives of his men and the honour of his country. He cannot depute it to another, and his success or failure in his own sphere may and must influence the success of all operations. Surely, then, the commander of men who refuses to study the art of leading them in war is little less than a criminal.

C. B. BRACKENBURY.

WALTHAM ABBEY,  
ESSEX.



# PREFACE

TO

## THE FIRST EDITION.

---

IN the first volume of this series, an attempt was made to place in the hands of regimental officers and non-commissioned officers the means of training themselves in the study of ground, just so far as is necessary to meet the daily requirements of war, without burdening them with scientific details which are needful only for the makers of accurate maps. The aim of the present volume is equally modest. No grand manœuvres are spoken of; no instances are given of the performances of great masters in war; above all, no attempt is made to teach officers of high rank. The individual soldier is taken as the unit, with his weapon, whatever it may be, and so much is said of the special powers of each of the three arms—Infantry, Cavalry, and Artillery—as seems necessary for all to know concerning each other. The organisation of the smallest bodies, companies, battalions, troops, squadrons, regiments, and batteries, with the space they occupy and the time required for their movements, is then explained. Next comes the application of the ordinary rules of modern tactics to English organisation and existing

English regulations ; infantry and cavalry being first treated separately, because either of them may be called upon to act alone. Finally, the action of the three arms in combination is described so far as small bodies, less than a general's command, are concerned.

No other book of the kind has been produced in the English language, and no challenge is therefore thrown out to rival authorship. All that is claimed for this manual is, that it bridges over the gap between the drill book and scientific treatises on tactics—a gap which has hitherto yawned so hugely as to deter all but the bolder spirits from leaping over the chasm. It may, however, fairly be asked whether both logic and common sense do not point to 'beginning at the beginning' as the right course in tactics as in every other study.

It will perhaps be remarked that the subject of the Organisation of Artillery and the special power of field guns has been treated more completely than the same characteristics of the other arms ; the reason for this is twofold. First, all officers of field artillery have been trained to a certain extent in both infantry and cavalry drills and manœuvres. Secondly, there is a strong and very creditable desire on the part of infantry and cavalry officers to master the art of using artillery in the field. That art is quite within their grasp, and must not be confounded with the science which embraces the technical studies of the artillery officer, whom it enables to construct, preserve, and repair the elaborate machines known as rifled guns, with their carriages and ammunition.

Nothing in this volume is to be taken as pointing to

the supposition that there is only one method of carrying out any operation in war. Such an idea would be most hurtful to the student. As there are many openings in the game of chess, so are there many ways of opening the simplest engagement in the field ; and, as the enemy may also begin his work in various ways, the possible combinations soon become infinite. But the chess-player knows that some openings are definitely good and others definitely bad, while certain general principles run through the whole of the game. So it is with tactics. The individual character of a commander will be, and ought to be, read on the face of his work, whether he attacks or defends ; but he must act within certain limits or we see at once that he does not know the principles of his art.

Thus, though the examples in this volume have been studied, criticised, and modified, not only by those responsible for them, but by many other officers, there is not one attack or defence which might not have been made in some different fashion, and perhaps with equally good results. Having gone through any one of them, by all means let the student try his hand at another combination. Only, he must never commit such errors as blundering up against an enemy's position without an attempt to reconnoitre it ; or, when he has the three arms to work with, throwing the whole stress of battle on one of them because it happens to be that with which he is most familiar.

Like the volume on ' Military Sketching and Reconnaissance,' this treatise is specially designed to be of use to the Militia, Yeomanry, and Volunteers. There is not a



district in England where these elementary tactics cannot be practised out of doors, and every student may form examples for himself.

In compliance with a suggestion that one object of this series, namely, to be of use to non-commissioned officers, should be notified in the title, an alteration has been made accordingly, and will be adhered to in future editions of the previous volume.

It is impossible to close this preface without expressing my deep sense of obligation to Major Wilkinson Shaw, for having undertaken the task when, I believe, he had formed the idea of writing such a work independently, for the time and labour he has devoted to it, and the cordial readiness with which he has always met any suggestions I ventured to make. The ground on which all the examples are worked out, is taken from the tactical model which he had begun to construct before I assumed my present duties ; and I have only to hope that my criticisms and suggestions have had no hurtful influence on the undoubted value of his work.

C. B. BRACKENBURY.

WOODLANDS,

YORK TOWN,

FARNBORO' STATION.

## NOTE BY THE AUTHOR.

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In the preparation of this manual the following works, published in English or French, have been consulted or in some measure made use of, and are recommended to the student's attention :

- 'Aperçus sur quelques détails de la Guerre.' Bugeaud. 1832.
- 'Attack and Defence of positions and localities.' Schaw. 1875.
- 'Avant-postes de Cavalerie Légère.' De Brack. 1869.
- 'Cavalry Field Duty.' Von Mirus. 1872.<sup>1</sup>
- 'Cavalry Outpost Drill.' Smith.
- 'Elementary Course of Fortification.' Phillips. 1876.
- 'Elementary Tactics of Prussian Infantry.'<sup>1</sup>
- 'Elements of Field-Artillery.' Knollys. 1877.
- 'Étude sur le Combat à pied de la Cavalerie.' Bonie. 1877.
- 'Exercices Tactiques de Combat.' Bestagno.<sup>2</sup>
- 'Extracts from an Infantry Captain's Journal.' Von Arnim. 1877.<sup>1</sup>
- 'Field Exercise for Infantry.' 1877.
- 'Guide Manuel du Chef de Patrouille.' 1876.
- 'Instruction Pratique sur le service de l'Infanterie en Campagne.' 1875.

<sup>1</sup> Translated from the German.

<sup>2</sup> Translated from the Italian.

- 'Instruction Pratique sur le service de la Cavalerie en Campagne.' 1875.
- 'Instruction Pratique de la Compagnie de l'Infanterie.' 1877.
- 'Instruction Tactique de l'Infanterie Italienne.' 1872.<sup>2</sup>
- 'Instructions for the use of Auxiliary Cavalry.' 1875.
- 'Instructions for Cavalry Outposts, &c.' 1876.
- 'La Petite Guerre.' W. Rüstow. 1875.<sup>1</sup>
- 'Manual of Field-Artillery Exercises.' 1877.
- 'Minor Tactics.' Clerly. 1876.
- 'On Outposts.' Hamley.
- 'Outpost and Patrol Duty for Prussian Infantry.' Von Waldersee. 1872.<sup>1</sup>
- 'Précis of Modern Tactics.' Home.
- 'Principles of Outpost Duty.' Hale.
- 'Règlement d'Exercices de l'Infanterie Austro-hongroise.'<sup>1</sup>
- 'Règlement d'Exercices de l'Infanterie Belge.'
- 'Règlement du 12 juin 1875 sur les Manœuvres de l'Infanterie.'
- 'Regulations for Cavalry.' 1876.
- 'Regulations for Training of Troops for Service in the Field.' 1871.<sup>1</sup>
- 'Royal Artillery Prize Essay of 1871.' Hime.
- 'Royal Artillery Prize Essay of 1876.' Smythe.
- 'Soldier's Pocket-book.' Wolseley.
- 'Studies in the New Infantry Tactics.' Von Scherff. 1873.<sup>1</sup>
- 'Studies in Troop-leading.' Von V. du Vernois.<sup>1</sup>
- 'Tactical Examples.' H. Helvig. 1876.<sup>1</sup>
- 'Tactical Use of the Three Arms.' Lippitt. 1865.
- 'Tactique Élémentaire, et Tactique Appliquées.' P. A. Paris. 1875.<sup>1</sup>
- 'Tactique de l'Artillerie de Campagne.' E. Hoffbauer. 1877.<sup>1</sup>

And others, to which must be added some manuscript notes on field-artillery, taken at Shoburness by an artillery officer.

Reference has also been made to General Von Schmidt's work on Cavalry; it has not, however, been yet translated into

<sup>1</sup> Translated from the German.

<sup>2</sup> Translated from the Italian.

either English or French, and is therefore omitted from the general list.

In all the stages of his work the author has derived much benefit from the friendly criticism and advice of Lieut.-Colonel Brackenbury, R.A., the Editor of this series, whose practical experience of the details of modern warfare, gained by presence during the three great European campaigns of our time, has given to his suggestions additional weight.

In the preparation of the First Edition the author had the further advantage of other acceptable counsel, for which he again returns his thanks: special acknowledgment being due to Lieut.-Colonel Haldane, late 64th Regiment, in regard to the chapters on Infantry, and to Major Barrow, C.M.G., 19th Hussars, in regard to the chapters on Cavalry. Lieut.-Colonel Haldane, moreover, afforded valuable aid, by assisting in the preparation of the tactical exercises.

The present Edition has been carefully revised, and various slight errors corrected.

W. J. S.

ALDERSHOT CAMP :

*July, 1890.*



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tunities of working out similar exercises practically on the ground, with or without the help of troops as the case may be. If it can be so arranged that the theoretical and the practical instruction go hand in hand, and are able to be worked in one with the other, the benefit to be derived will be so much the greater. If this cannot be done, the elementary theory must in all cases precede the practical instruction. Afterwards, theoretical study of the subjects practically taught by means of exercises in the field, must not be neglected by the student.

As in modern warfare independent leaders, whether officers or of lower grade, are required in greater numbers than formerly, it is certain that some method for their effectual training must be instituted. No better system can be devised than that of exercising the student in schemes or studies, based each upon a possible situation or *Idea*, wherein he may be forced to make up his mind as to a course of action under given conditions. Having to carry out his designs as well as to form them, he will thus learn early as a commander, not only what to do, but how to do it. Such exercises should be supplemented by others out of doors, in which the student can become accustomed to hostile action, by one party being pitted against another in small manoeuvres.

This mode of instruction has in principle been advocated by many modern writers.\* Whether the exercises are indoors or out-of-doors, they should always be progressive, and the student should not be allowed to handle the arms in combination until he thoroughly understands the employment and mode of application of one arm by itself, in all the minor operations of war.

As regards the theoretical portion of his studies, the student in tactics is recommended, so soon as he has thoroughly mastered the elements of the art as given in the text of this manual, to work out on the 6-inch map in full detail all the exercises shown in the small plates, using blocks for troops, such as the men belonging to the Krieg Spiel if available, or substitutes cut out in cardboard as

\* Von Verdy du Vernois, Von Scherff, and many others.

suggested in the directions printed on the map. The student should subsequently vary these exercises for himself by slightly altering the conditions of each ; by such means he can work out an entirely new set of situations, referring for principles, when at fault, to the text of the manual.

Having derived as much benefit as possible from these exercises, the student will find that he is able to take an entirely new interest in all tactical questions, and that he can now for instance understand the movements executed at a game of Krieg Spiel and criticise them with fair judgment in a manner impossible a short time before. He should follow up his studies by reading carefully Home's 'Précis of Tactics.' He will also derive profit from a perusal of the many interesting tactical examples from military history contained in Clery's 'Minor Tactics.' Next he should read Hamley's 'Operations of War,' and afterwards study the most authentic records of the campaigns of 1866 and 1870 in their entirety. During this stage he will do well to work out Hale's valuable 'Tactical Studies of the Battles of Columbey and Vionville.'

#### SOME USEFUL DEFINITIONS.

As a preliminary exercise in the study of the elements of tactics, the student should examine himself to ascertain if he knows the meaning of the various conventional military expressions which he must constantly make use of and understand.

*Tactics*, as distinguished from *Strategy*, means the art of handling troops in the presence or in the immediate neighbourhood of an enemy. *Strategy* is the art of conducting the greater operations of war, by movements that take place out of sight of, or at a distance from, an enemy. In the study of either of these sciences, however, other details, incidental to the conduct of all operations in the field, whether large or small, must be considered, in addition to those strictly involved in the handling or movements of troops.

A *group* of men whether of infantry or cavalry may be formed of any number from two upwards until it arrives at

the strength of a recognised sub-unit, such for instance as a section of infantry.

*A vedette* is a cavalry mounted sentry posted in a fixed position where a continual look-out is necessary.

*A scout* in cavalry is of two kinds, being employed either for the sole purpose of examining ground over which a body of troops is to pass, when he is usually called a squadron scout, or else being detached for ordinary reconnoitring purposes from a patrol or reconnoitring party.

A scout in infantry is usually a marksman, sent out in advance of attacking troops, to reconnoitre, to endeavour to pick off the leaders of the enemy's advanced troops, and to select cover in advance for the fighting line to move up to. The term is also applied to an ordinary reconnoitrer detached from a patrol.

*Frontage* is the extent of ground occupied by the front rank of a body of troops in whatever formation they may be.

*Interval* is the lateral space between men or bodies of troops in frontage.

*Distance* is the space between men or bodies of troops from front to rear.

*Depth* is the space taken up by a body of troops from front to rear.

*Column of route* is a formation for moving on a road with a narrow front, when on the line of march. In cavalry the term is more particularly applied to columns having no broader front than that presented by a column of sections, i.e. four men abreast. In infantry the formation is usually that of fours. In artillery the front is invariably that of one carriage only.

#### ON MARCHING BY AID OF THE SUN OR STARS.

Before proceeding further a few remarks may be made, on a method by which an officer or soldier in the field may practically accustom himself to observe the relative positions of places, and the direction of routes, with reference to the cardinal and other points of the horizon.

The four principal or cardinal points, North, South, East,

and West, and their intermediate points, North-east, North-west, South-east, South-west, will be found generally sufficient for all military purposes of observation or description. When the 'bearing' of an object is mentioned, it means the situation of the object estimated from a fixed point of observation with reference to these points of the horizon. Thus an observer facing north, raising his right arm stiffly till in a line with the shoulder, and finding his hand pointing to a tower, might say that the bearing of the tower was due east.

The points of the horizon can be most correctly obtained by reference to a magnetic compass, which, for all purposes of correcting or finding positions or of following routes, will be found extremely useful on field service. The most simple form of compass will serve as well as a more elaborate instrument; but due attention should be paid to its preservation, and the precaution of keeping it clear from the attraction of iron when taking observations should above all never be neglected.\*

A magnetic compass may not, however, be ready at hand in the field, or the one in use may get out of order. The officer or soldier on detached service should therefore be able to do without one, and correct his position or find his road, in the daytime by aid of the sun, and at night by help of the stars.

In northern latitudes the sun appears due south when passing the meridian of the place at noon; and consequently a man's shadow, or the shadow of a stick, bayonet, or sword, placed vertically in the ground, would point due north at that hour. If a watch, or perhaps the chime of a neighbouring church clock, is not available to fix the hour, the observer must learn to estimate midday by the height of the sun in the heavens, taking into account the time of year. This is less difficult than may be supposed, seeing that it is habitually practised with much accuracy by the outdoor populations of all countries.

The observer placing himself with his back to the sun at

\* The mode of using a magnetic compass is explained in the first volume of this series.

noon will find his shadow pointing due north, the south being therefore directly to his rear, the east on his right hand, and the west on his left hand. The cardinal points are thus most accurately obtained at noon. They can also be taken with a certain correctness, sufficient for most practical purposes, during some hours before and after midday, by noting the position attained by the sun in his apparent course. The sun rises approximately in the east, and in northern latitudes appears to move thence to south-east, where he may be looked for at or about three hours before noon. From south, where he is at noon, he moves to south-west, which he reaches some three hours after noon. The sun's point of setting is always towards the west.\*

The sun's course immediately before and after noon may be roughly measured on the horizontal plane of the ground by giving it an angular speed of  $15^{\circ}$  per hour. Thus the shadow of a stick at 11 A. M. would point in a direction not far from  $15^{\circ}$  to the left of true north. An angle of  $15^{\circ}$  can be quickly laid out on the ground, by first marking a right angle by the eye, and then dividing half of it into three parts, one of which will give the required angle. A line drawn on the ground away from the stick, and making an angle of  $15^{\circ}$  with the shadow, to its right, will hence point nearly due north.

In southern latitudes † the sun appears due north at noon;

\* The observation of a north and south line at noon is the only one requiring no calculation, and reliable without regard to place or time of year. The exact position of the sun at each hour of time before or after midday not only varies with the season of the year, but with the place of observation. Some local instruction would therefore be necessary to show how to find the points of the compass by the sun's aid at other hours than noon. In England the sun may be taken at south-east at 9 A.M. during the six winter months without much error, but this would not be accurate during the six summer months, more especially near midsummer.

† To meet possible criticism, the writer must explain that in speaking of southern or northern latitudes he refers broadly to such as are south or north of the tropics. Within the tropics the sun at noon appears due north or due south according to the time of year, and twice in the year it is vertical at noon, about which times no observation could be taken. With care a north and south meridian line could be laid down at all

thus an observer at the Cape of Good Hope would find the shadow of a vertical stick at midday pointing due south. The sun's apparent course is from east to north-east, thence to north, which he reaches at noon. From north he moves to north-west, and disappears towards west at sunset.

A very simple form of sun compass may here be described which might be useful in the field. It could be made in ten minutes with the aid of a piece of cardboard and a common brass pin, and would help to indicate the position of the observer at or about midday, or to fix the direction of his march, with quite sufficient accuracy. The possession and use of such a compass card would often induce new habits of thought and observation in the soldier, and tend to develop his sense of locality. To make the compass, which is shown in Fig. 1, Plate I., a circle about the size of a large watch should be drawn on a piece of strong cardboard, which should then be trimmed round with a knife or pair of scissors till about the eighth of an inch of cardboard is left outside the circle. Two diameters, at right angles, are then drawn, to represent a north and south line, and an east and west line, the letters N, S, E, W, being printed outside the points where the diameters meet the circle. The circle is thus divided into four quadrants, each of which should be again divided into equal parts by two other diameters being drawn at right angles to each other, to meet the circle at the points marked NW, NE, SW, and SE.

The portions of the circumference of the circle, S, SE, and S, SW, may be again subdivided into three parts, each of which has an angular value of  $15^{\circ}$  being the sixth part of the quadrant.

To use the compass the card should be held horizontally, and, noon being taken from a watch or other source of information, a common brass pin is stuck upright into the card at S. The card is then turned so that the point S is towards the sun and the shadow of the pin falls across the centre of the circle in the direction of N. The letters showing the other seasons by means of a suspended plumb line, or a stick accurately adjusted to the vertical.



cardinal and other points now indicate their true local bearings, and objects in the landscape or on the horizon must be noted by which they can be remembered. A single observer can best effect this if he places the card on the ground, so that the shadow of the pin passing through the centre of the circle points north. He should then stand on the opposite side of the compass from the points to be observed, while selecting convenient landmarks.

Should the observation be taken a little before or after midday the pin must be fixed into the card at a point on the circle east or west of the letter S, the shadow, as before, being made to fall across the centre of the circle. The true north will be now in the direction to which the north line of the compass card points. The accuracy of this method, however, cannot (without local correction) be relied upon for more than an hour before and an hour after noon.

For southern latitudes the pin would be inserted in the card at N and the operation of using the compass would be the reverse of the above, with similar results of indicating the true bearings of the points of the horizon.

The principles inculcated by the use of some such appliance would often, even in its absence, enable the leader of a party in a strange country, to advance without a guide in a given direction. Suppose him serving in Turkey and that he is directed to start at sunrise and march due north. In this case, if without compass of any kind, he can still direct his march, by first keeping the sun on his right side and then letting it gradually and slowly get more and more to his rear, till by its height in the heavens he judges it to be noon. Now for a time he must follow the direction of his shadow, and then gradually let the sun get more to his left and less behind him, till the approach of sunset, when his shadow rapidly lengthening should be cast to his right side.

At night the direction must be taken by the stars. In the northern hemisphere this is comparatively easy, as the pole star will give the true north with sufficient accuracy. In order to mark therefrom the local bearing of the principal points of the horizon, some landmark which appears to be

vertically under the pole star should be looked for and noted. The observer standing facing this landmark will then have the south directly in his rear, the east on his right hand, and the west on his left hand. The pole star itself can always be found by looking for the Great Bear constellation, two end stars of which, called the pointers, are in the same line, or nearly so, with the pole star. It should be remembered that, like other fixed stars, those of the Great Bear revolve round the pole once in twenty-four hours, so that the position of the constellation in the heavens will not appear the same to the spectator at all hours of the night.\* At all times, however, an imaginary line drawn from one pointer to the other and produced to about six times its length, indicates very nearly the position of the pole star.

The compass card already alluded to may at night be used as a star compass. The pin in this case would be placed at N and a shorter pin at S. The card should be held horizontally as before, but up to the level of the eye, until the heads of the short and long pins are brought into line with the pole star. The intersection of the foot of the long pin at N with the horizon would represent the direction of the true north.

#### HINTS ON MAP READING.

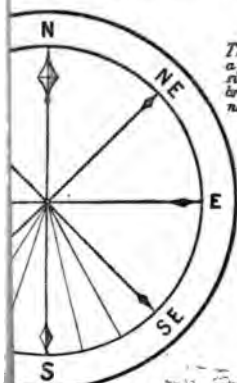
All officers and non-commissioned officers in the present day should understand the use of maps, and be able to read them without difficulty. The student will find that comparing a map with the ground which it represents is an excellent plan for attaining proficiency in this art. The map for a preliminary exercise should be of fairly large scale, a convenient one being that of six inches to the mile if it can be procured. The student should not, however, be satisfied until he can also read the smaller scales. Having selected some starting point on the ground, easily found on his map, such as four cross roads or

\* Neither will the Great Bear appear in the same position at the same hour on different nights. Thus in the latitudes of the British Isles he is nearly overhead at ten o'clock at night early in April; but at the same hour of the night towards the beginning of October he is seen due north, and not much above the horizon.

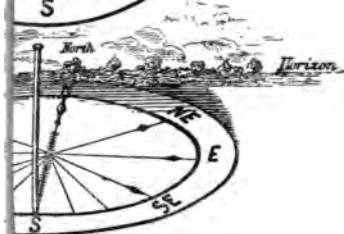
a village green, he should walk along a main road, holding the map as the ground lies, or in other words with its northern portion towards the direction so far as known of the true north. A pocket or prismatic compass would of course much assist him in accurately finding the north ; but it may be fixed sufficiently closely as above shown by the watch and position of the sun, or even by turning and adjusting the map until two or more prominent objects marked thereon and within sight of the observer come into their proper relative positions on the paper. At every lateral or cross road the angle at which it intersects or runs into the main route should be roughly estimated, and the map compared to see if it looks the same on paper. A few distances may first be judged, then paced, and then measured on the map according to the scale. Any marked features of ground in the vicinity, especially those valuable from a military point of view, should now be examined and compared with the map. The student will thus soon become habituated to the necessarily technical manner in which ground and details of occupation are depicted on paper. The conventional signs employed, most of which are used in maps intended for civil as well as military purposes, with a few additional ones for the latter alone, should of course be carefully learnt and understood. After some practice with a six-inch map the student should use the one-inch Ordnance map, which is sufficiently detailed for nearly all practical requirements in the field. He should not consider himself perfect until he can rely upon being able to find his position quickly on the map at any part of the ground upon which he may happen to be, and until he can pick out his route from one place to another along strange roads by aid of his map alone.

In order to complete his acquaintance with maps and derive full use from them, an officer should be able to prick off distances thereon with a certain amount of accuracy. The direct distance or range from one point to another would of course be taken as the crow flies, and the length by scale of a line joining the two points would give it ; but more often it is required to know the distance by a road which winds

Compass by the Sun or Stars.



*This figure is drawn upon a piece of card-board the size of a watch. Two ordinary brass pins complete the necessary equipment.*



*William Shaw  
1874*

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and curves along its whole or a greater part of its length. There are several more or less ingenious instruments for taking such measurements on a map, which depend on the revolution of a wheel. They are all scientific toys and are not to be depended upon in the field, where if they get out of order or are broken they cannot be replaced. A pair of ordinary compasses or dividers is the only reliable instrument. Should these be lost or broken, any ingenious man can replace them with two pieces of hard wood about six inches long, shaped out with a knife, and joined together at the head, so as to open and shut stiffly, by a common steel screw taken out of a packing-case; the extreme points being supplied if thought fit by two large housewife needles driven for half their lengths up the ends of the legs of the dividers.

For the purpose of illustrating the mode of using the dividers we will assume that it is required to measure the exact distance by road on a one-inch map, from a farm house to a village apparently some four or five miles off as the crow flies.

We perceive that the road as shown on the map goes at first for a short distance, of about half an inch, nearly straight from the farm house to a bridge. We accordingly place the point of one leg, which we will call the near leg, of the dividers, at the farm house, and, allowing the weight of the compasses to bear lightly thereon, we push out the other, which we will call the far leg, till the point rests on the bridge. Here the road after crossing the river turns sharply to the left along the bank, and the weight of the compasses being transferred to the far leg, upon the point of which they revolve round to the right, the near leg is brought down again to the paper in the line of the new direction of the road *produced backwards*. The weight is now shifted to the near leg, and the far leg is pushed gently forward so far as the road goes straight, or until there is a pronounced change, this time to the right, in its general direction. Here the point of the far leg is dropped and receives again the weight of the compasses, the near leg being traversed round to the left until in prolongation of the new direction produced backwards, when

the near point is rested on the paper while the far one is pushed forward to the most distant point upon the road to which a straight line measurement can be taken. This movement being repeated until the village is reached, the angle to which the compasses are already opened will be slightly increased each time. The distance between the points of the pair of dividers is now measured by application to a foot rule, or to the scale on the map, and found to show on the one, six and a quarter inches, or on the other, six and a quarter miles. The village is therefore that distance by road from the farm.

Should the road or other route to be measured in this fashion be of extent to exceed the possible span of the dividers, or the length of the scale shown on the map, it is a good expedient to draw a line in pencil along the length of the margin of the map and to mark thereon the whole measurement in portions of convenient lengths, the sum of which gives the desired distance as represented by a straight line. The dividers being adjusted to a suitable division, or number of divisions, of the scale, as a mile or 1,000 yards, can then be stepped along the line, the small remainder left at the end being separately taken and added to the distance thus obtained.

Some practice in the above will enable a surprising accuracy to be attained, with little trouble, in taking road measurements to scale from a map.

## CHAPTER II.

## FUNCTIONS OF THE THREE ARMS.

A FORCE in the field to be complete must consist of all the three arms. In order to comprehend clearly the tactical use of the three arms combined, we must first investigate their independent value, and discuss the general functions and characteristics of each arm separately.

## INFANTRY.

## CHARACTERISTICS OF INFANTRY.

The infantry soldier is armed with a breech-loading rifle, which, speaking generally, may be considered to come into play at 900 yards from the enemy.\*

The bayonet, to be attached thereto, is his weapon for close quarters, but its use is comparatively rare in modern warfare.

Infantry is the only arm which can act independently, under all circumstances, whether in attack or defence, in motion or at rest.

The action of infantry is,

1. Fire-action ;
2. Shock-action ;
3. A combination of the two.

Of these, it may be accepted, as a principle, that fire-action in the present day is by far the most important. The material results of superior fire are moreover accompanied by a moral effect which helps to ensure success.

Hence every means should be taken—

1. To increase the effect of fire-action upon the enemy ;
2. To neutralise, so far as possible, the effect of fire-action on the part of the enemy.

The object of attack is, however, to destroy or capture

\* The long-range fire of infantry will probably play a great part in future wars, more especially when troops on the defensive have time and means for measuring ranges and making rests for the rifles. As, however, the question is in an unsettled state, the rules of tactics cannot yet be altered to meet the new conditions in any book which attempts to conform to the present drills and usages in the English service.—EDITOR.



the enemy, or at least to drive him from position, and even superior fire-action is rarely alone sufficient for this purpose. It may therefore be conceded that, for full completion of victory, the offensive fire-action of infantry requires to be supplemented or accompanied by shock-action at the right moment. Example : The final assault of a position, preceded by infantry fire during the advance.

The defensive fire-action of infantry in position, behind cover, may be maintained without much loss, and possibly demoralize or partly destroy the enemy ; but before the fullest success can result therefrom, the action must be changed into offensive fire and shock-action combined. This is called giving the counterstroke.

On the other hand, defensive fire-action may, under some circumstances, be the only one permitted. Example : Infantry acting as support to artillery should rarely, if ever, leave position to attack or pursue. Their function is almost purely defensive.

In modern warfare, it is not possible to advance, for the shock-action of infantry, in the close order of former days. Bodies of troops, above a certain strength, can no longer move, under hostile aimed fire, in other than dispersed order. This comprises first the fighting line in extended order, then its immediate supports, broken up into fractions more or less dense and more or less separated according to circumstances ; then the reserve or main body, preserved as long as possible in compact formation, to be also broken up on coming within the zone of fire.

The leading or firing line is progressively reinforced from the rear during the latter part of the advance, first by the supports, and finally, as necessary, by the main body. To this first line, formerly purely a skirmishing line, is now transferred the real business of the fight. The whole of the force is combined with it, or is merged in it, during the advance, for the shock-action of the assault.

But frequently where the attacking force possesses a superiority of fire, its moral effect, added to that of an unwavering advance, renders actual shock unnecessary. Example :—A position held and defended until the assaulting line comes

within 300 yards. The defenders, demoralized by superior fire and the resolute approach of a steadily advancing line, break and retire, before the position is reached by the assailants.

In advancing to attack with a portion of the force extended, the troops in support and reserve should assume small column formations, as they enter the outer zone of fire. The small column of medium breadth and depth is most favourable to forward movements in varied ground, and is capable, under many conditions, of being preserved to a late period in the advance. When the supporting line, however, begins to feel the effects of the enemy's fire, the columns must be changed to more open formations. The main body should be retained as long as possible in small columns, and, if the ground favours the movement, it may often be pushed up in such formation close to the point at which its action is required. The force is thus kept better in hand than if earlier dispersed, but in open ground under aimed fire none other than extended order can be long preserved.

#### TACTICAL UNIT OF INFANTRY.

The battalion is the tactical unit, its war establishment in the field being as follows:

Officers	31
Non-commissioned officers and men*	1,066
Officers and men	1,097
Riding horses	12
Draught horses	44
Horses	56

The battalion is divided into 8 companies, the war establishment of one company being as follows:

Officers	3
Sergeants	5
Corporals	5
Drummers or Buglers	2
Privates	113
Driver	1
Officers and men	129

\* This includes twenty-two drivers for regimental transport.

Allowing a fair margin for casualties, the company made up to this strength may be taken at 50 files or 100 men for all purposes of calculation. Whatever may be its strength, the company will probably be the fighting unit in all future wars. In dispersed order the battalion can no longer be directly commanded by one man. Hence the necessity for a certain amount of independent command of smaller units. The battalion will, however, remain as it were the centre of action. The general direction of operations will come from the commander of the battalion, which will therefore not cease to be the tactical unit.

The company is divided into two half companies and four sections. For manœuvring purposes the senior subaltern is the right guide of the company, the junior subaltern the left guide. In line, companies are numbered from right to left; in column, from front to rear.

#### CALCULATION OF TIME AND SPACE OCCUPIED BY INFANTRY IN MARCHES OR FORMATIONS.

As an early exercise the student should practise calculating both the time and space required in marches or formations by each arm, or by all arms of the service in combination. In doing so the conventional terms which are ordinarily employed must be clearly understood from the commencement. These terms are Frontage, Interval, Distance, and Depth. Their definitions are given in the first chapter, page 4, and care should be taken that they are not confounded one with the other. It should be noted that frontage includes intervals. For instance, the frontage of two battalions in line would include the interval between one battalion and the other. Depth, on the other hand, includes distances. For instance, the depth of a battalion in column would be measured from the front of the leading front rank to the rear of the extreme rear rank of the column, and would include the distances between one company and another, which are taken from the heels of the front rank of one company to the heels of the front rank of the next company.

*Frontage of infantry.*—The frontage required for a battalion in line is thus found:

Each man occupies a space of two feet, therefore the number of men in line drawn up two deep will give the number of feet required for the front rank. Add two feet for the right guide of each company, two feet for the left guide of the line, and six feet for the colour party. The result is the total frontage in feet, which, divided by 3, gives the frontage in yards of a battalion in line.

## EXAMPLE.

	Feet
8 companies of 100 men . . .	$100 \times 8 = 800$
8 right guides . . . . .	$8 \times 2 = 16$
1 left guide . . . . .	$= 2$
Colour party . . . . .	$3 \times 2 = 6$
Total . . . . .	<u>824</u>

Say 275 yards.

The frontage in paces may be found by multiplying the number of files by 8 and dividing by 10, thus :

	Files
8 companies of 50 files . . . . .	$= 400$
9 guides with coverers . . . . .	$= 9$
Colour party . . . . .	$= 3$
Total . . . . .	<u>412</u>

$412 \times 8 = 3,296$ , and cutting off the last figure (a sufficiently accurate division by 10) we obtain as result 329 paces, the frontage of the battalion in line.

For all practical purposes, however, the yard\* is a more useful unit, and we shall adhere to it in our calculations.

\* The following relation between the French metre and the English yard will be found approximately correct. The writer has not seen it in print, and therefore subjoins it for the use of his fellow-students.

$$\text{Metres} + \frac{\text{metres}}{11} = \text{yards};$$

$$\text{thus: } 1,100 \text{ metres} + \frac{1,100}{11} = 1,200 \text{ yards};$$

$$\text{or conversely: } \text{yards} - \frac{\text{yards}}{12} = \text{metres};$$

$$\text{thus: } 1,200 \text{ yards} - \frac{1,200}{12} = 1,100 \text{ metres.}$$

To bring paces to yards, multiply by 5 and divide by 6 (the pace being 30'' and the yard 36''), thus :

$$30 \text{ paces} \times 5 \div 6 = \frac{150}{6} = 25 \text{ yards ;}$$

$$\text{or conversely : } 25 \text{ yards} \times 6 \div 5 = \frac{150}{5} = 30 \text{ paces.}$$

In Brigade, the frontage of battalions in line should include 25 yards' interval between every two battalions. When the nature of the ground requires it, this interval may be reduced to 10 yards.

A line of quarter columns would be formed with intervals of 25 yards, which may be increased, if desirable, to deploying intervals plus 25 yards.

*Depth of infantry.*—The depth of a battalion in line, taking in supernumeraries of the third rank, may be considered as 3 yards.

The captains are in line, a pace in rear of the supernumeraries, i.e. the guides and sergeants.

The depth of a column of fours is equal to the frontage in line.

The depth of a column of companies is equal to the frontage in line, minus the frontage of the leading company, plus the depth of the rear company ; thus in the example already taken the depth of the battalion in column would be

$$275 - 34 + 3 = 244 \text{ yards.}$$

The depth of quarter column equals five times the number of companies, minus two yards ; thus the same battalion in quarter column would require

$$8 \times 5 - 2 = 38 \text{ yards.}$$

In brigade, the distance between every two battalions in column equals the frontage of their leading companies, plus 25 yards, in order to preserve intervals on wheeling into line.

*Pace of infantry.*—The ordinary pace of infantry on the march during field operations may be taken at about three miles an hour, or 88 yards per minute, for tactical calculations. This rate of march, which includes slight checks but not halts, must be looked upon as the tactical pace of infantry, and as such distinguished from the drill pace of 97 yards per minute laid down in the Field Exercise. The latter pace

(perhaps even increased to 100 yards per minute) would be, however, fully attained when advancing to attack before opening fire. In advancing after firing has commenced, but without seeking cover, the pace would be about 40 yards per minute. In advancing by rushes, taking advantage of cover, about 20 yards per minute. Through thick wood the advance would not exceed 40 yards per minute.

At the double the pace is increased to about five miles an hour, for short intervals of not more than two minutes or so at a time. At this pace 146 yards would be passed over in one minute.

From the foregoing data calculations may be made for infantry as follows :

1. The distance to be passed over being known, and the pace decided, the time required for a movement can be calculated.

2. The strength of a column or party of the enemy's infantry may be approximately estimated, by noting the time occupied by the force in passing a fixed point, together with its pace and formation, sufficient deduction being made, when necessary, in the calculation, for opening out or straggling on the march.

EXAMPLE 1.—A company of infantry is ordered to arrive at a bridge, distance by road on the map 3 miles 540 yards, exactly at 9 A.M. A second company is to arrive simultaneously at a further bridge, distance on map 4 miles 350 yards. Pace ordinary. When should the companies start ?

ANSWER.—1st company : 3 miles will take	hr.	m.
	1	0
$\frac{540}{88}$ yards	0	6

Total time on march	1	6
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Start at 6 minutes before 8 A.M.

2nd company : 4 miles will take	1	20
$\frac{350}{88}$ yards	0	4

Total time on march	1	24
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Start at 24 minutes before 8 A.M.

No margin is here allowed for halts during the march, the distance to be traversed being short. When the march is long the estimated rate of progress should include short halts, and ought not then to be expected to exceed  $2\frac{1}{2}$  miles per hour under the ordinary conditions of field service. During peace manœuvres, however, and occasionally under favourable circumstances in the field, the pace of 3 miles per hour may be assumed to include short halts.\*

**EXAMPLE 2.**—A column of infantry in fours takes  $3\frac{1}{2}$  minutes to pass across an opening under observation. Pace ordinary. Calculate the strength of column.

**ANSWER.**—Distance passed over by rear of column, in moving up to observed point, gives length of column in yards; thus :

$$88 \times 3 + \frac{88}{2} = 264 + 44 = 308 \text{ yards.}$$

308 yards is therefore the actual length of the column, but the observer has reason to think a considerable deduction must be made for opening out. Twenty per cent. being accordingly subtracted, the depth of the column at correct distances is found to be 250 yards.

The length of a column of fours equals the frontage in line of the same number of men, and 250 yards of front represents a force of  $250 \times 3 = 750$  men.

This gives the approximate strength of the column under observation.

#### CAVALRY.

##### CHARACTERISTICS OF CAVALRY.

The cavalry soldier is armed with a sword and a breech-loading carbine. Lancers are armed with a lance, in addition

\* It must be understood that this and other elementary examples are only given as exhibiting in the simplest form the method of making more difficult calculations of a similar nature. In Example 1 the commander would hardly require in practice to work out the hours of starting with pencil and paper, nor in the supposed case would a minute or two one way or the other affect the result. The principle inculcated is, however, of much importance, and commanders should possess both the power and habit of making such calculations easily and correctly whenever they are required. The failure of tactical combinations is commonly caused by want of accuracy in such matters.

to the sword. The cavalry soldier mounted depends individually on the naked weapon, or *arme blanche* as it is called, for offence or defence. His firearm should not be used from the saddle, except for the purpose of signal. Dismounted cavalry can use their firearms effectually, but not in the sense of skirmishers as applied to infantry. They are principally employed on the defensive, to check an advance or to hold a post; but when cavalry has pushed on to the front it may often by this means seize on a tactical point, and hold it until the infantry can come up.

The action of cavalry may be divided into

1. Shock-action; in line.
2. Detached action; either singly or in small parties.  
To which we may add
3. Dismounted fire-action.

The leading principle of the action of cavalry in battle consists in attack. Even for purposes of defence it must advance to attack, as at the halt it is comparatively defenceless. Cavalry must therefore keep out of fire, until it can itself attack. The shock-action of cavalry to be efficacious should be applied at the right moment, and the charge should then be as impetuous as possible. The main conditions for success are rapidity and surprise in the advance, vigour and momentum in the shock. A combination of mobility and velocity, therefore, gives the greatest tactical value to cavalry on the field of battle. A powerful moral effect supplements the physical effect of the charge. After the charge, cavalry should either pursue the enemy or rally as quickly as possible according to circumstances.

In covering the retreat of an army, especially its retirement from a lost field of battle, cavalry is of great value. It must here continue to act vigorously on the offensive, as the best means of defence both for itself and for the other arms; operating under every disadvantage of time and place, and often at the risk of total destruction, in order to fulfil its special duty.

Cavalry should always manoeuvre in column. The particular formation depends much on the ground; but small columns are the most mobile and flexible, and present a less



compact object to artillery fire. They can readily turn obstacles and obtain shelter of ground.

Cavalry fights in line, or rather in a succession or echelon of lines. Marmont says, 'A column of cavalry surrounded is quickly destroyed.' In all cavalry attack a proportion of the force should be kept as a reserve. It has been said that 'victory will remain with the side that can produce the last reserves.' The reserve follows in rear, to a flank or flanks; and its duties are, to protect the retreat if the charge is unsuccessful, or to complete the victory if successful. Every attacking body also of any strength should protect its flanks, or at all events the exposed flank, by echelons, during its advance. It is, finally, of high importance that, in all cases, ground over which cavalry is to act should be reconnoitred by scouts thrown out to the front and flanks, so that the advance may not be checked by marshy ground, dykes, or other unforeseen obstacles.

The weak points of cavalry are its flanks; consequently cavalry should be attacked by cavalry if possible on a flank, and when in the act of deploying. Under such circumstances, necessarily those of surprise, a small body may attack a large one with every chance of success.

Infantry should be attacked by cavalry, in flank, when in motion, when demoralized or broken by artillery fire, or be surprised.

Artillery should if possible be attacked in motion, or when limbering or unlimbering.

Artillery in position should only be attacked in flank or in rear; the escort in such case, if there is one, must be simultaneously charged by a portion of the force.

But the main use of cavalry in the present day is undoubtedly in its detached action, which includes all reconnoitring, screening, escort, and messenger duties. The service of watching, feeling, and hanging on to the enemy's troops is more than ever useful and important to an army in the field, and demoralizing to the enemy in its effects.

The value of the dismounted fire-action of cavalry in modern warfare is only beginning to be felt. It has, however,

been employed with good results in the late campaign, by the Russians ; and in any future war its tactical importance, under many conditions, will probably be fully acknowledged.

TACTICAL UNIT OF CAVALRY.

The squadron of cavalry is the tactical unit.

In our service the regiment of cavalry consists of four squadrons.

The war establishment of a regiment is as follows :

Officers . . . . .	31
N. C. O. and men . . . . .	622 *
<hr/>	
Officers and men . . . . .	653
Chargers . . . . .	91
Troop horses . . . . .	480
Draught horses . . . . .	44
<hr/>	
Horses . . . . .	615

The war establishment of a squadron is as follows :

Officers . . . . .	6
Troop sergeant-majors . . . . .	2
Sergeants . . . . .	6
Corporals . . . . .	8
Artificers . . . . .	4
Trumpeters . . . . .	2
Privates . . . . .	120
Drivers . . . . .	2
<hr/>	
Officers and men . . . . .	150
Chargers . . . . .	18
Troop horses . . . . .	120
Draught horses . . . . .	4
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Horses . . . . .	142

\* Including twenty-two drivers for regimental transport.

Deducting the troop horses required to mount the sergeant-majors, sergeants, artificers, and trumpeters, and allowing a margin for casualties, the squadron with the above establishment may be taken at 48 files, or 96 horses, for all purposes of calculation.

A squadron consists of two troops, the senior of the two captains on parade becoming the squadron leader. Squadrons number from the right in line and from the front in column. The troops of a squadron are 'right' and 'left' in line, and 'leading' and 'rear' in column of troops. Troops are divided into squads for administrative, not for tactical, purposes.

The division is the largest tactical body in which cavalry is usually formed, and consists generally of two brigades of three regiments each, or twenty-four squadrons. Horse-artillery would usually form part of the cavalry division.

#### FRONTAGE AND DEPTH OF CAVALRY.

*Frontage.*—The extent of front of a body of cavalry is as many yards as it contains files; but in calculating the frontage of more than one squadron in line, an interval of twelve yards must be allowed between every two squadrons.

In column of fours—i.e. 8 men abreast, four front rank men and four rear rank men—the bare frontage is a little over 9 yards, being 1 yard for each man and half a horse's length of interval between the front and rear rank men; but allowing for the troop leaders on the directing flank and the serrefiles on the outer flank, about 12 yards should be considered the least interval through which a column of fours could pass.

In column of sections, i.e. 4 men abreast, the bare frontage is 4 yards, but at least 6 yards must be allowed.

Similarly in column of half-sections, i.e. 2 men abreast, the bare frontage is 2 yards, but 4 yards must be allowed.

In brigade the intervals between regiments or brigades of cavalry, either in line or in line of columns, is 24 yards, with an addition for band and staff if required.

This interval must be included in all calculations of frontage.

*Depth.*—A horse's length is a term of measurement used in calculating depths, and equals 8 feet.

The ordinary distance between croup of front rank horse and head of rear rank horse, at close order, is one horse's length. The same distance is allowed between front rank and troop leaders, and between rear rank and serrefiles. Hence the depth of a squadron in line, troop leaders and serrefiles included, is  $8 \times 7 = 56$  feet, say 19 yards.

The squadron leader is a horse's length in advance of the troop leaders, which would make, if he is included in the calculation, a depth of  $8 \times 9 = 72$  feet, or 24 yards, necessary for the squadron in line.

In open column the depth equals the frontage in line, less the front of the leading body.

In quarter column (which is only applied to squadrons, not troops), three horses' lengths are allowed between rear rank and front rank of successive squadrons.

Hence the depth is six horses' lengths per squadron, plus one horse's length. For 4 squadrons this would be :

$$6 \times 4 + 1 = 25 \text{ horses' lengths} = \frac{25 \times 8}{3} = 67 \text{ yards.}$$

In close column (which usually signifies squadrons unless troops are specified), one horse's length alone is allowed between rear rank and front rank of successive squadrons. Hence the depth is four horses' lengths, per squadron, plus one horse's length. For 4 squadrons this would be :

$$4 \times 4 + 1 = 17 \text{ horses' lengths} = \frac{17 \times 8}{3} = 46 \text{ yards.}$$

In column of fours, the length of the column is the same as the extent of front in line. The distances between squadrons are also the same as the intervals in line, viz. one-fourth the front. The distance between horse and horse, head to croup, is half a horse's length.

In column of sections, the length of the column is double

the frontage in line ; the distances between horses, and also between squadrons, being half a horse's length.

In column of half-sections, the length of column is four times the frontage in line ; the distances between horses, and also between squadrons, being half a horse's length.

#### PACE OF CAVALRY.

The rate of walk is 4 miles an hour, or 117 yards in a minute.

The rate of trot is 8 miles an hour, or 235 yards in a minute. As a general rule the trot should not be kept up for more than two or three miles at a time.

The pace of cavalry on the march, alternately trotting and walking, may be taken at 5 miles an hour, or 146 yards in a minute.

The rate of gallop is 12 miles an hour, or 352 yards in a minute. The pace of an orderly or messenger, on service, may be taken at this rate for a mile ; beyond that distance, alternately galloping and trotting, at 10 miles an hour, or 293 yards in a minute.

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From the above data the following calculations may be made for Cavalry :

1st. The distance to be passed over being known, and the pace decided, the time required for a movement can be calculated.

2nd. The strength of a force of cavalry may be approximately estimated, by noting the time it occupies in passing a fixed point, together with its pace and formation, sufficient deduction being made, when necessary, in the calculation, for opening out or straggling on the march.

EXAMPLE 1.—Two squadrons of cavalry at A, are ordered to rendezvous at B, at a certain hour the following morning, proceeding by different routes. The route for the 1st squadron, pricked off on map, is 6 miles, 730 yards. The route for 2nd squadron is 8 miles, 1,600 yards. What hours of departure will enable the squadrons to arrive simultaneously at B, at the time ordered ?

ANSWER :	hrs. m.
At 5 miles an hour the first squadron	
would do 6 miles in . . .	1 12
To which add $\frac{730}{146}$ equal to . . .	5
Total . . . . .	1 17

The squadron must therefore start 1 hour and 17 minutes before the time of rendezvous.

	hrs. m.
At 5 miles an hour the 2nd squadron	
would do 8 miles in . . .	1 36
To which add $\frac{1600}{146}$ equal to . . .	11
Total . . . . .	1 47

The 2nd squadron must therefore start half an hour before the 1st squadron.

EXAMPLE 2.—A reconnoitring patrol visits a railway station and brings back the following reliable information :

‘Yesterday a large body of the enemy’s cavalry crossed the railway. A small party in advance examined the station and cut the telegraph wires. Then came the main body. The telegraph clerk timed it crossing the bridge ; three and a half minutes were occupied in filing over. The men were four or five abreast ; the horses were walking, not trotting, when they began to cross the bridge.’

From these data calculate the force of cavalry.

ANSWER.—The formation was evidently that of sections, the pace a walk, the time occupied in passing a fixed point  $3\frac{1}{2}$  minutes ; hence the length of the column was

$$117 \times 3 + \frac{117}{2} = 351 + 58 = 409 \text{ yards.}$$

From this it will be seen that the force consisted of about 400 men, probably four strong squadrons of cavalry.

No deduction from the calculated depth of the column is here made for straggling, there having been a check at the bridge.

### EXERCISE I.

#### TIME OCCUPIED IN THE MOVEMENT OF TROOPS.

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##### IDEA.\*

A STRONG reconnoitring party (Red), consisting of a half troop of cavalry supported by one and a half companies of infantry, is ordered to be sent out at daybreak from the Manor Farm, Redburn Hill, to report on supposed presence of the enemy (Blue), at or near Churton and Wiley Hills.

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In this exercise the student should place himself in the position of the Commander of the reconnoitring party, whose duty it will be to make arrangements on the previous evening for the march and route of the troops detailed. The Commander finds that he must be at the Tarbor River by 6.30 A.M., in order to complete his reconnaissance on the further bank sufficiently early, and it appears to be desirable to occupy all the four bridges at the same time. He has therefore to calculate the time which it will take for each portion of his force to arrive at its post, directing the hours of departure to be in accordance therewith.

a. The half troop of cavalry is to move by the hollow road, north-west of Manor Farm, to the Common, thence to Farley Bridge. On crossing the stream it is to proceed to Chorley Farm, sending patrols along the high ground to the west. The route will then be along the road passing Cleveley Park gate to

\* When reading the Idea the student should refer to the small scale map of the surrounding country (given as a frontispiece, and also printed in the margin of the six-inch Minor War Game map), as well as to the special plate at the end of the Exercise.

Winsley Bridge. The party will halt when near the bridge, under cover of the copse south of Cleveley Park, and send on a patrol to the bridge.

The distance of this route pricked off on the map is 5,900 yards, from the Manor Farm to Winsley Bridge. Taking five miles an hour, alternate trot and walk, for the pace, which will give time for the scouting to the flanks to be effected, it will be found that  $\frac{5,900}{146}$  yards = 41 minutes. The cavalry must therefore start at 5.49 A.M., in order to arrive at Winsley Bridge at the appointed hour of 6.30 A.M.

b. Half a company of infantry is to move by the hollow road to Five Roads Cross, over Glenfield Bridge, passing west of the town, and skirting Cleveley Park fence, to Winsley Bridge, which it is to hold with one section. The other section is to be sent on by the river road to hold Totley Bridge. Both bridges are to be occupied by 6.30 A.M., the section at Winsley Bridge keeping well under cover, a little to the rear, until the hour named, when it will take up the best position for holding the bridge.

The distances in this case are found to be 4,450 yards to Winsley Bridge, and half a mile thence to Totley Bridge. As  $\frac{4,450}{88}$  yards = 51 minutes and  $\frac{880}{88}$  yards = 10 minutes, it follows that the half company must start 61 minutes before the appointed time, or at 5.29 A.M.

c. A section of infantry is to advance by Garrads Cross, and move up to the high ground by the road between Gorsham and Rainham Hills, then along the plateau and through Rainham Wood to Yatton Bridge, which is to be occupied at 6.30 A.M.

The distance here is found to be  $\frac{3,900}{88}$  yards = 45 minutes, so that the section must start at 5.45 A.M.

d. Another section of infantry is to advance by Hanley Farm, and the lower road between Windmill Hill and the East River, to Stanton Bridge, which is also to be occupied at 6.30 A.M.

The distance in this case is found to be  $\frac{4,000}{88}$  yards = 46 minutes, so that the section must start at 5.44 A.M.

e. The remaining half company of infantry is to be retained as a reserve. It will start as soon as the rest of the infantry has marched off, and advance at a moderate pace by Five Roads Cross and Glenfield Bridge Road.



## OBSERVATIONS.

The object of the arrangements here detailed, is a simultaneous occupation of the four bridges with infantry at a fixed hour, in order that the cavalry may then cross the river and complete the reconnaissance of the south bank, having its retreat safely secured at all points.

The student will perceive that the calculations thus simply made show the Commander, that half a company of his infantry should march at half-past 5 in the morning, while the remaining two sections of the advanced portion of the force need not leave till a quarter of an hour later. The cavalry party may start at about ten minutes to 6 A.M.

Plate II. shows the routes from Manor Farm to the river of each party, and their positions at 6.30 A.M.

Time occupied  
in the movement of Troops





## CHAPTER III.

FUNCTIONS OF THE THREE ARMS (*continued*).

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ARTILLERY.

## CHARACTERISTICS OF ARTILLERY.

FIELD-BATTERIES and horse-artillery batteries are armed, in our service, with a muzzle-loading rifled field-gun. Light field-batteries and horse-artillery batteries have the 9-pounder gun. Heavy field-batteries have the 16-pounder gun.\*

Smooth-bore field-guns may now be looked on as altogether out of date.

The mountain-gun for light mountain-batteries in use is a steel 7-pounder gun.

Batteries of position hardly come under our consideration. They are armed with 40-pounder guns.

The arm of artillery is the gun.

The carbine and short or long sword, with which a proportion of the men are provided, are merely intended for individual defence, or for guard and bivouac purposes.

The function of artillery in action is to prepare for and to support the attacks of infantry and cavalry, or to defend them when attacked, rather than to act independently, without their presence.

\* Some changes in this armament may shortly be anticipated, as experiments are in course of progress with new field-guns. Different kinds of guns, both breech-loading and muzzle-loading, and several machine-guns, are under consideration, but, so far, none have been finally selected.

The action of artillery is confined to fire-action. Guns limbered-up, or in motion, are useless and of themselves defenceless for the time.

In order to understand the value of artillery fire-action, and the principles which should regulate its application on the field of battle, we must first lay down a limit of distance forming the zone of artillery fire, within which other troops cannot move in dense formations without heavy loss. We must also determine what is to be considered as the zone of infantry fire, within which guns cannot take up position without serious risk to horses and men.

As regards the first, although the ranges of our 16-pounder and 9-pounder guns much exceed under favouring circumstances 2,500 and 2,000 yards respectively, these distances may yet be taken as the extreme useful and effective ranges at which their fire-action, under ordinary conditions, comes into full play.

As regards the second, at 800 yards the gunners come under effective fire of infantry.

From this it would appear that a rough elementary principle may be deduced limiting the operations of guns, when the best effect combined with greatest safety is required, to the ground that lies between these zones of fire. But there are many exceptions to the rule; and under favouring conditions of ground and atmosphere, and with the use of range-finders, guns may be used with advantage beyond the distances laid down, nor can they themselves under similar circumstances despise the long-range fire of infantry. With a long line of guns, moreover, there must be diversity of range, as the distance of some of them from a given object will inevitably be greater than that of others. Guns may also, for the gaining of special advantage, require to be brought into action under effective fire of infantry, or to be retained under it, at possible or even probable loss to men and guns. The early development of artillery fire in force is one of the marked features of modern warfare, and, where a clear tactical advantage is obtainable thereby, considerations of danger must not be allowed to outweigh all others;

nor is there any reason why artillery should not suffer losses in battle proportionate to those of the other arms.\*

As regards the objective of artillery, guns should generally be directed upon that arm of the enemy which is at the time the most predominant. At each stage of an action one arm is for the moment the principal one, and should be checked by opposing fire; but if any doubt arises as to which threatens most, troops rather than guns should then be the objective of artillery. At the commencement of an action, however, if the enemy's artillery can be silenced by an early concentration of fire, it should be promptly effected, in order to clear the way for infantry attack.

As artillery is powerless when in motion it should remain in one position so long as its fire is thoroughly effective therefrom, and all further movements should be made with the greatest rapidity possible, so that no time may be lost in again coming into action.

In selecting positions for artillery, the first and leading principle is that fire-action against the enemy should be as little as possible impeded by any accidents of ground. That the guns should be hidden from the enemy's view, and more or less protected from his fire by natural or artificial† cover, may also be looked on as important, but not so much so as that their action should be free.

If a defensive position is to be taken up and held, the guns should be entrenched.

Well-defined and isolated positions should be rather avoided for guns as being too conspicuous, and no cover for the enemy's infantry should be within effective rifle range, unless the guns are completely protected from it. Smooth ground, either level or sloping gently, and soft enough to prevent the rebounding of bullets and pieces of shell, is the best for an artillery position.

\* At Gravelotte, neglecting extreme cases, the ranges varied between 3,300 and 650 yards.

† See an article on field artillery by Lieut.-Col. C. B. Brackenbury, R.A., in *Nineteenth Century* for July 1878.

#### RESERVE OF ARTILLERY.

The reserve of artillery as employed in the field should consist of men, horses, and ammunition rather than of guns, because the guns themselves are seldom disabled by the fire of the enemy, and can continue in action so long as they are left supplied with the means of working them, and with horses to move them whenever necessary.

#### ARTILLERY FIRE.

The moral effect of the fire-action of artillery is very great. Some think it more so than the physical effect, looking at total results of a campaign. On the other hand, in the very war from which this deduction has been principally drawn, many instances undoubtedly occurred where the physical effect of guns in action decided the day ; and it is to be remembered that a great part of the artillery fire in an action is directed against troops under cover, where, if it produces but little physical effect, that of infantry would probably produce none at all.

THE VARIOUS KINDS OF FIRE are known as follows :

1st. With reference to the horizontal plane.

*Front or frontal fire* is that which is directed perpendicularly, or nearly so, to the general line of troops fired at.

*Oblique fire* is that which is directed obliquely to the line of troops fired at ; it is more effective because more searching than the last.

*Enfilade fire* is one which rakes the enemy's line of troops. The gun must be posted in prolongation of the line to be raked. This is a most decisively effective fire, being also demoralising to the enemy on account of the impossibility of reply.

*Flanking fire* must be directed along the front of, or nearly parallel to, the line to be flanked or defended. It

would thus take in flank an enemy approaching to direct attack. This fire has much of the same advantages as enfilade fire.

*Cross fire* means that the projectiles from guns in different positions cross one another at a particular point of ground. It partakes somewhat of the nature of a flanking fire, and produces by its distracting and disconcerting action a peculiar moral disorganisation. It is in this rather than in frontal fire that the long range of modern artillery tells with such effect.

2nd. With reference to the vertical plane.

*Direct fire* is that from guns with service charges at all angles of elevation not exceeding  $15^{\circ}$ .

*Indirect or curved fire* is that from guns with reduced charges, at all angles of elevation not exceeding  $15^{\circ}$ . In this case the object to be fired at is unseen by the gunner, the projectile pitching upon troops concealed behind a hill or obstacle.

*High angle fire* is that directed from guns at a greater elevation than  $15^{\circ}$  with any charges. This term now includes what used to be called vertical fire, so named from the general direction of the projectile on impact.

Besides the above, which are the only terms to be in future officially\* recognised, *Ricochet fire* is still in use, but, in its strict sense, being only applicable to fire with reduced charges from smooth-bores, it should be considered obsolete. Ricochet enfilades or searches into a line of troops by a series of grazes and bounds of the shot, but the projectile of rifled guns, not being spherical, does not act truly on rebound, and rifled shells with percussion-fuzes have a far greater effect than the bounding of the old round shot.

\* Royal Artillery, Regimental Order, War Office, January 31, 1877.



## PROJECTILES.

*Common Shell* is a hollow cast-iron elongated projectile, filled with a large bursting charge of powder. It bursts into a few large pieces, and is sometimes used, at both short and long ranges, against troops in mass, or against troops in line, if enfilade or oblique fire is possible ; but chiefly against buildings, or obstacles, and to fire combustible materials. It is also employed for shelling villages, stockades, &c. It is known by being painted black.

*Shrapnel Shell* is packed with bullets, which are liberated in their flight at the proper moment, by a small bursting charge of powder breaking up the outer case. This projectile is used against troops in all formations, when in open view. Shrapnel has been called by some writers the 'man-killing' projectile, and its effect depends on the velocity of the shell at the time of bursting. With the present guns it is very effective up to 2,500 yards, and moderately so up to 3,500. The field guns now under experiment have much higher velocities than those of the service, and their shrapnel fire is proportionately more powerful. Shrapnel shell is distinguished from common shell by the head being painted red.

*Case Shot* consists of a thin metal cylinder, packed with small balls. The case breaking, by the discharge, the balls are liberated at the muzzle, and spread over a considerable space. Case shot is used up to an extreme range only of 350 to 400 yards. If the ground in front of the enemy is hard or stony, the result is more effective. Case is employed against cavalry or infantry at close quarters.

Shrapnel shell loaded the reverse way without plug or fuze may also be used as case, on emergency, within 100 yards. Its effect is very great.

## FUZES.

The fuzes used with shell are either *percussion-fuzes* or *time-fuzes*, names which explain themselves.

The bursting charge of the shell is ignited, either, at a previously calculated moment of its flight, by a time-fuze, or, on striking the object or ground, by a percussion-fuze.

Percussion-fuzes are more reliable than time-fuzes. They are more generally used with common shell than time-fuzes, the limit for error permissible in the case of the common shell being very small. It must burst at or close to the object in order to be effective.

On the other hand time-fuzes are more applicable to shrapnel, which should burst more or less short of the object aimed at. The greater the range the nearer to the object should the point of bursting be. At short ranges, say under 1,500 yards, the distance may be as much as 200 yards; but at long ranges there is such a loss of the final velocity upon which the penetration of the bullets depends, and the angle of descent is so much increased, that about 50 yards short of the object is found to be sufficient.

Shrapnel may be used effectively with percussion-fuzes, on occasions when it can be fired at short ranges over hard ground.

Percussion-fuzes should be used for shrapnel as well as for common shell, in the case of trial shots to pick up the range. It is much easier to judge of an error in range by a shell bursting on graze than if exploded in the air by a time-fuze. The Okehampton Committee recommend the use of the percussion-fuze under these circumstances, as giving valuable aid in the excitement of action.

#### NATURE OF AMMUNITION TO BE USED.

It is highly important that officers of all arms should understand, which of the above projectiles and fuzes would be preferably employed, under various conditions. A few additional remarks on this head will not, therefore, be out of place.

Against troops in the open in any formation, shrapnel, if used with skill and within effective range, gives much more destructive results than common shell. The effect of shrapnel depends on,

- 1st. The velocity of the shell at moment of bursting ;
- 2nd. The exact timing of the explosion, so as to give best effect on object aimed at.

Hence to obtain greatest results from shrapnel it should generally be fired with a time-fuze, but unless the range is accurately known, neither the elevation nor the boring of the fuze for time can be exactly correct. Unless therefore range-finders are in use shells should be fired with percussion-fuzes till the range is ascertained.

Against troops or guns under temporary earth cover, it is doubtful whether common or shrapnel shell will give most results. With either one or the other the effect is considerable, except as shaking the nerves of the enemy and obliging him to lie close, while infantry advances unmolested to attack.

Common shell differs from shrapnel, inasmuch as it depends for its destructive effect on its capacity for holding a considerable amount of powder as a bursting charge. This projectile, in addition to being always used beyond shrapnel effective ranges, would be preferably employed in trial shots with percussion-fuzes, as it gives a larger puff of smoke than shrapnel, and ranges are best estimated when a distinct puff is shown on graze.

Common shell, although ill adapted for use against troops in the open as compared with shrapnel, should be employed for shelling them out of villages, houses, or woods, or when behind obstructions of almost any kind. Its explosion creates much heat and easily sets fire to houses.

Case shot, being only employed at close quarters, needs no other remark than that it should never be fired over the heads of one's own troops, its action being too uncertain and scattering.

Common shell and shrapnel with proper care may be so fired if necessary, but it is very inadvisable to do so unless the distance from the guns to the troops over whom it is fired is considerable.

## TACTICAL UNIT OF ARTILLERY.

*The Battery* is the tactical unit of artillery.

A battery of field or horse-artillery consists of six guns.

A mountain-battery or battery of position of four guns.

The war establishment of field or horse-artillery is as follows :

*9-pounder field-battery.*

Officers*	.	.	.	.	.	.	7
Men	.	.	.	.	.	.	167
Officers and men	.	.	.	.	.	.	174
Riding horses .	.	.	.	.	.	.	30
Draught horses	.	.	.	.	.	.	102
Horses	.	.	.	.	.	.	132
Guns	.	.	.	.	.	.	6
Ammunition wagons	.	.	.	.	.	.	6
Forge wagon	.	.	.	.	.	.	1
Spare carriages†	.	.	.	.	.	.	3
Carriages	.	.	.	.	.	.	16

*16-pounder field-battery.*

Officers*	.	.	.	.	.	.	7
Men	.	.	.	.	.	.	193
Officers and men	.	.	.	.	.	.	200
Riding horses .	.	.	.	.	.	.	30
Draught horses	.	.	.	.	.	.	128
Horses	.	.	.	.	.	.	158
Guns	.	.	.	.	.	.	6
Ammunition wagons	.	.	.	.	.	.	6
Forge wagon	.	.	.	.	.	.	1
Spare carriages†	.	.	.	.	.	.	3
Carriages	.	.	.	.	.	.	16

\* Including a surgeon and veterinary surgeon.

† One wagon for supply purposes.

*9-pounder horse-artillery battery.*

Officers *	.	.	.	.	.	.	7
Men	.	.	.	.	.	.	174
<hr/>							
Officers and men	.	.	.	.	.	.	181
Riding horses	.	.	.	.	.	.	77
Draught horses	.	.	.	.	.	.	106
<hr/>							
Horses	.	.	.	.	.	.	183
Guns	.	.	.	.	.	.	6
Ammunition wagons	.	.	.	.	.	.	6
Forge wagon	.	.	.	.	.	.	1
Spare carriages†	.	.	.	.	.	.	3
<hr/>							
Carriages	.	.	.	.	.	.	16

The men in a battery are divided into gunners, drivers, and artificers.

The guns and wagons are horsed by teams of from 6 to 8 horses, with a driver to each pair of horses; the pairs of horses are known as lead, centre, and wheel, horses.

A battery is divided into two half batteries, called the right and left half battery, each consisting of three guns with their wagons.

It is also divided into three divisions, called the right, centre, and left, divisions. Each division is commanded by a lieutenant, and consists of two guns with their wagons.

One gun with its wagon forms a subdivision. A subdivision is commanded by No. 1 of a gun, usually a sergeant.

The gun detachments of a field-battery consist of 8 gunners, who march or sit on the gun and wagon, under the command of No. 1 of the gun, who rides. While at a walk, the 8 gunners may either march, or be mounted, 2 on the gun limber, 2 on the wagon limber, and 4 on the wagon body.

\* Including a surgeon and veterinary surgeon.

† One wagon for supply purposes.

Should the gun be working without its wagon, or be separated from it by an increased pace, 3 gunners are carried on the gun limber, and 2 on the axle-tree seats, who, with No. 1, suffice to work the gun on emergency. On firm ground a gun can be worked by three men without much diminution of rapidity of firing. The gunners are sometimes in other services carried on the off horses for short distances. Nos. 1 of detachments are always mounted, except when in action, and ride on the left of the lead drivers of their guns.

In the horse-artillery the gun detachments at war strength number 14 men, of whom two, including No. 1, are non-commissioned officers. Of this number, 10 are mounted on horses, 4 on the gun limber and wagon limber, or, in absence of the wagon, 2 on the gun limber, and two on the axle-tree seats. Of the 10 on horses, 4 are horse holders, the remainder in action serving the gun. Nos. 1, when mounted, are always on right of the front rank of their gun detachments.

#### INTERVALS AND DISTANCES.

Intervals and distances are measured from Nos. 1 to Nos. 1 when limbered up, and from muzzle to muzzle when in action.

The following calculations are made for 6 horses with each gun or wagon, it being understood that a gun or wagon with that strength of team takes fifteen yards in column of route, four yards being added or subtracted to the depth for each pair of horses more or less than six.

<i>Intervals :</i>	<i>yards.</i>
Between subdivisions of a battery in line full interval	19
Between subdivisions of a battery in line half interval	9½
Between every two batteries in line . . . . .	28½

*Frontage.*—The extent of front of a battery is five subdivision intervals plus the front of one subdivision, thus :—

<i>At full interval—</i>	<i>yards.</i>
Field-battery . . . . .	$19 \times 5 + 3 = 98$
Horse-artillery battery . . . . .	$19 \times 5 + 7 = 102$

The front of a subdivision in a field-battery is only the frontage of one gun, *i.e.* three yards. In a horse-artillery battery it is the frontage of one gun plus the frontage of the gun detachment, *i.e.* seven yards for a detachment of 8 men, with an additional yard for each file over that number.

At half interval— yards.

Field-battery . . . . .  $9\frac{1}{2} \times 5 + 3 = 50\frac{1}{2}$

Horse-artillery battery . . . . .  $9\frac{1}{2} \times 5 + 7 = 54\frac{1}{2}$

*Distances.*—In column of route: yards.

Between the rear of one carriage and heads of the leading horses of the next . . . . . = 4

Between gun and gun detachment in horse-artillery whether marching front or rear, 1 horse's length =  $2\frac{2}{3}$

Between horses of gun detachment in horse-artillery when in two ranks, 1 horse's length . . . . . =  $2\frac{2}{3}$

Between horses of gun detachment in horse-artillery when in half sections, as in cavalry,  $\frac{1}{2}$  horse's length . . . . . =  $1\frac{1}{2}$

Between No. 1 of a subdivision in column of route, and No. 1 of the next subdivision following:

If a field-battery subdivision, without a wagon ( $15 + 4$ ) = 19

If a field-battery subdivision, with a wagon ( $15 + 4 + 15 + 4$ ) . . . . . = 38

If a horse-artillery subdivision, without a wagon, with gun detachment front of 8 men marching in two ranks ( $2\frac{2}{3} + 2\frac{2}{3} + 2\frac{2}{3} + 2\frac{2}{3} + 15 + 2\frac{2}{3}$ ) . . . . . =  $23\frac{1}{3}$

In column of route, if wagons accompany a field-battery each wagon follows its gun, but for horse-artillery there is nothing laid down in the Regulations as regards the position of the wagons on the march. They would, however, in most cases (especially when near the enemy) be more likely to bring up the rear of the battery, than to remain with their subdivisions. They are therefore not included in the above calculation for horse-artillery. In the column of route of more than one battery, a distance of half a subdivision interval must be allowed between every two batteries.

*Depths.*—In column of route. From the foregoing it will be seen that in column of route, the depth of a field-battery, with or without ammunition wagons, will be six subdivision distances minus 4 yards; the depth of a horse-artillery battery, without wagons, will be, also, six subdivision distances minus 1 horse's length.

Thus:

	yards.
Field-battery, without wagons ( $19 \times 6 - 4$ ) . . .	= 110
Field-battery, with wagons ( $38 \times 6 - 4$ ) . . .	= 224
Horse-artillery battery, gun detachments front, of 8 men, in two ranks ( $28\frac{1}{2} \times 6 - 2\frac{1}{2}$ ) . . .	= 167 $\frac{1}{2}$

The above are bare requirements, and if extra carriages or spare horses are added, as is usually the case, they must also be allowed for. Thus if a forge wagon, and two pairs of spare horses, are included with the field-battery, its length in column of route becomes  $(228 + 15 + 4 + 4 - 1\frac{1}{2}) = 249\frac{1}{2}$ ; say 250 yards.

#### PACE OF ARTILLERY.

For field-batteries the trot is the pace of manœuvre, but the walk is made much use of at drill to spare the horses. The gallop should not be employed except on special emergency.

Horse-artillery may gallop when considered desirable.

The pace of the walk is the same as for cavalry, not to exceed 4 miles an hour or 117 yards in a minute.

The trot should be 8 miles an hour or 235 yards in a minute.

The pace of artillery on the march is usually the walk, to be increased, on occasion, to an alternate trot and walk of 5 miles an hour, or 146 yards in a minute.

The rate of gallop is 12 miles an hour or 352 yards in a minute.

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From the foregoing data, if the distance to be passed over by artillery is known, and the pace determined upon, the time required for a movement can be calculated.



In estimating the strength of the enemy's artillery on the march, the time occupied in passing a fixed point may form an element for calculation, as in the case of the other arms; but it is often possible to count the number of guns, which is a surer method.

#### THE THREE ARMS IN COMBINATION.

##### *Intervals in Line.*—

	yards.
Between artillery, and cavalry or infantry (one interval and a half). . . . .	28½
Between infantry and cavalry . . . . .	24

*Distances in Column of Route.*—The same as intervals in line.

*Frontage.*—In calculating frontage of the arms in combination the above intervals must be included.

Plate III. represents a small force of the three arms on the line of march, and shows the length of road which it would occupy in column of route.

*y Troops on the march.*

Length of Column on route:  
4 cos. Infantry, 100 each;  
1 squadron cavalry, 96 horses,  
6 guns.



Head of Column	0
Company of Infantry in fours	34
Company of Infantry in fours	34
Distance between Infantry & Artillery	28½
Battery of Artillery without wagons	110
Distance between Artillery & Infantry	28½
Company of Infantry in fours	34
Company of Infantry in fours	34
Distance between Infantry & Cavalry	24
Squadron of Cavalry in Sections	86
Total	423

This is the exact depth of the Column at correct  
distances but on the line of march about 20 per  
cent must be allowed for opening out, so that the  
Column would occupy fully 500 yards of road.



## EXERCISE II.

## SPACE AND TIME REQUIRED FOR MARCHES AND FORMATIONS.

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IDEA.\*

All the bridges on the Tarbor River having been destroyed by floods except Yatton Bridge, a (Red) force advancing south pushes on a column from Clinton, to seize and hold this remaining point of passage.

A (Blue) force is advancing north from Hambden with like purpose.

## FIRST STAGE.

*Red.*—The main column consists of two battalions of infantry (8 companies of 100 men each), three squadrons of cavalry (48 files each), and a battery of field artillery (6 guns) without wagons. The advanced-guard of the column is south of the river, and consists of three companies and one troop. The head of the main body has reached Yatton Bridge at 9.10 A.M. marching in the following order :

Two companies of leading battalion in fours,  
The battery of artillery,  
Three companies of leading battalion in fours,  
The rear battalion in fours,  
Two squadrons and a troop in sections.

On reaching the bridge the head of the column halts, and the troops in rear, which have opened out on the march, close up to proper distances. The point or leading group of the advanced-guard has just reached the southern slope of Drayton Hill not far from the Water Mill, and has touched on Blue's

\* When reading the Idea the student should refer to the small scale map of the surrounding country (given as a frontispiece, and also printed in the margin of the six-inch Minor War Game map), as well as to the special plate at the end of the Exercise.

advanced scouts. A mounted orderly is immediately despatched with the intelligence to the commander of the Red column at Yatton Bridge. The orderly leaves the south slope of Drayton Hill at 9.10 A.M. and gallops back along the road to Yatton Bridge.

*Blue.*—The advanced-guard of this force is composed of cavalry and infantry, half a troop and two companies, and the leading scouts of the advanced party of cavalry have come into contact with those of Red after crossing the Mill Brook. Part of the infantry has taken post at the north-western edge of Holm Woods, and fires across the valley at the Red advanced groups. This is shown in Fig. 1, Plate IV.

In the first stage, the student is required to calculate, at what time the information of the presence of Blue would be received by the commander of Red at the bridge, and, also, to find the length of the main column, the tail of which extends along the road north of Cleveley Park.

*First calculation.*—The orderly will proceed at a full gallop, the message being urgent, or at the rate approximately of 12 miles an hour. The distance to be passed over must be pricked off the map by the student, and will be found to be as nearly as possible 1,760 yards, or one mile, from the point of departure to the bridge. The orderly will therefore take five minutes to reach the commander, and will deliver his message at 9.15 A.M.

*Second calculation.*—The length of the main column is found thus:

	yards.
The depth of two leading companies in fours	
equals their frontage in line, $34 \times 2$ . . .	68
The interval between infantry and artillery . . .	28½
The depth of field-battery without wagons . . .	110
The interval between artillery and infantry . . .	28½
The depth of the remaining three companies of the	
first battalion, $34 \times 3 + 2$ (colour party) . . .	104
The interval between infantry and infantry . . .	25
The depth of second battalion . . .	275
The interval between infantry and cavalry . . .	24
The depth of two squadrons and a troop of cavalry	
in sections, $96 \times 2 + 48$ . . . . .	240
Total . . . . .	903

As there has been a check at the bridge, no allowance for

opening out on the march need be made in this calculation. The tail of the column will therefore be about 900 yards from the bridge, and extend as shown in Fig. 1, Plate IV.

#### SECOND STAGE.

*Red.*—The commander of the main column at the bridge, at 9.15 A.M. receives intelligence of the enemy's close proximity, and immediately orders his force to cross the river and form up to cover the bridge. He despatches an order to the commander of his advanced-guard to keep back Blue's column as long as possible, so as to give the main Red column time to take up position.

The main body is thus disposed on crossing the bridge :

*a.* The five companies of the leading battalion to hold the main road, their front being 600 yards in advance of the bridge. A half company, on each side of the road behind some fences, each supported by its remaining half company, one near the Upper Wood, and the other near the southern edge of Yatton Woods. These two companies to be well under cover. The remaining three companies in reserve on each side of the main road, about 200 yards in advance of the bridge.

*b.* The battery of artillery to take up position and come as soon as possible into action, on a knoll to the left flank about 800 yards from the bridge.

*c.* The leading squadron of cavalry to take post on the open ground to the left rear of the guns, pushing forward scouts to the edge of the hill overlooking South End Farm, and also along the roads leading to South End Bridge and to Minton. This squadron to act as immediate support to the guns, until the infantry next named (*d*) comes up.

*d.* Two companies of the rear battalion, on crossing the bridge, to move to the plantation on the left of the artillery, which they are to occupy as quickly as possible, in support of the guns and of the left flank generally. They will send forward one section to the brow of the hill above South End Farm, where cover is obtainable behind some fences.

*e.* Six companies of the rear battalion to the right rear of the small wood between Yatton and Winsley Bridges, not more than 300 yards from Yatton Bridge. These companies are in column for further disposal.

*f.* The remaining squadron and a half of cavalry to the right flank, about 500 yards from Yatton Bridge, sending forward patrols along the road to Drayton Hill.

The above positions as well as the delaying action of the Red advanced-guard are shown in Fig. 2, Plate IV. It will be seen that the infantry of the Red advanced-guard lines the southern edge of Drayton Woods, having its reserve near Pawley Wood, while the cavalry worsts Blue cavalry in a skirmish near the Pawley-Churton Road.

*Blue.*—The attempt of Blue's advanced-guard to force back the opposing force is also shown in Fig. 2, Plate IV.

Having a weak advanced-guard, Blue is unable to make any progress on Drayton Hill until reinforced, by which time Red's main column has taken up position to cover the bridge, and has brought his guns into action.

In the second stage the student is required to calculate the time which it would take for the various fractions of Red's main column to form up. The movement commences at 9.16 A.M. when the leading company of infantry crosses the bridge.

*a.* The two half companies of the fighting line advance to position 600 yards from the bridge, at a pace somewhat quicker than that of the ordinary march, completing their extension in 6 minutes: time 9.22 A.M.

Their supports arrive at the same moment: time 9.22 A.M.

The three companies of reserve have to march 340 yards before their rear section of fours crosses the bridge, and their position is 200 yards in advance of the river. They consequently have to march 540 yards, which at the ordinary pace of 88 yards per minute takes them a little over 6 minutes: time say 9.23 A.M.

*b.* The battery moves at infantry pace till clear of the bridge, then disengaging to the left, gun by gun, it trots up to the knoll. The last gun has to move

		yards.	min.	sec.
At a walk . . .	$\frac{206}{88}$	= 2 20		
At a trot . . .	$\frac{800}{235}$	= 3 24		
		<hr/> 5 44		

taking nearly six minutes: time say 9.22 A.M.

*c.* The leading squadron follows the infantry till clear of the bridge, and then, forming column of troops, trots 800 yards. The rear section of the squadron has to pass over

**PLATE IV.**







	yards.	min.	sec.
At a walk . . .	$\frac{759}{88}$	= 8	38
At a trot . . .	$\frac{800}{235}$	= 3	24
		<u>12</u>	<u>2</u>

taking about 12 minutes : time say 9.28 A.M.

On the movement commencing, some leading files of this squadron would be sent forward at a trot, past the infantry, to join the battery ; they would gallop out to the left flank as scouts on clearing the bridge, and reach their posts a little in advance of the guns.

*d.* The two companies for the plantation, on left rear of the guns, march 432 yards up to the bridge, and then 800 yards to their position :

$$\frac{432 + 800}{88} \text{ yards} = 14 \text{ min. : time 9.30 A.M.}$$

*e.* The remaining companies of the rear battalion have to move  $\frac{639 + 300}{88}$  yards = 10 min. 40 sec.

time say 9.27 A.M.

*f.* The cavalry in rear has to march

	yards.	min.	sec.
At a walk . . .	$\frac{903}{88}$	= 10	15
At a trot . . .	$\frac{500}{235}$	= 2	7
		<u>12</u>	<u>22</u>

time say 9.29 A.M.

#### OBSERVATIONS.

The above and similar exercises will enable the student to make calculations of the space occupied by troops, and of the time requisite for carrying orders into execution. As regards the latter, it is of the highest importance that a commander should always be able to form an accurate idea of how long it will take to complete a movement, before he directs it to be commenced.

**SHOWING THE ORDINARY MINOR OPERATIONS OF WAR, AND THEIR CONNECTION ONE WITH THE OTHER.**

<p><b>MARCH,</b> { When its security is provided for, by</p>	<p>{ Detached bodies ;</p>	<p>{</p>	<p>Advanced-guards,</p>	<p>{ Infantry or Cavalry, or</p>
			<p>Flanking parties,</p>	<p>{ Infantry and Cavalry, or</p>
<p>or</p>	<p>{ Reconnoitring bodies ;</p>	<p>{</p>	<p>Rear-guards,</p>	<p>{ Infantry, Cavalry, and Artillery.</p>
			<p>Small or stealthy patrols,</p>	<p>{ Of Infantry, or Cavalry.</p>
<p><b>HALT,</b> { When its security is provided for, by</p>	<p>{ Reconnoitring bodies ;</p>	<p>{</p>	<p>Reconnoitring parties,</p>	<p>{ Of one, two, or sometimes of the three arms.</p>
			<p>Special reconnoissance,</p>	<p>{ Generally of all three arms.</p>
<p>or</p>	<p>{ Outposts ;</p>	<p>{</p>	<p>Guarding,</p>	<p>{ Sentries or Vedettes,</p>
			<p>Patrolling,</p>	<p>{ Of both combined, Or of the three arms.</p>
<p><b>BATTLE,</b> { When its object may be attained, by</p>	<p>{ Fire-action ;</p>	<p>{</p>	<p>Artillery fire,</p>	<p>{ 2,000 yards, from</p>
			<p>Infantry fire,</p>	<p>{ 900 the enemy.</p>
<p></p>	<p>{ Shock-action ;</p>	<p>{</p>	<p>Infantry charge,</p>	<p>{ 50</p>
			<p>Cavalry charge,</p>	<p>{ 50</p>

An ARMY in the field is always in a state of,

## CHAPTER IV.

SECURITY AND INFORMATION.

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SECURITY AND INFORMATION REQUISITE FOR AN ARMY  
IN THE FIELD.

No army in the field should ever be taken at a disadvantage or surprised by the enemy.

Were the whole force always on the alert it would be difficult to take it at a disadvantage, impossible to take it by surprise.

But constant alertness on the part of an army prevents that repose which is necessary to preserve it in a state of health and efficiency.

Covering detachments are therefore made use of, which, composed only of a small portion of the whole, provide by their watchfulness for the *security* and tranquillity of the main body.

Whether on the march or at the halt these detachments are always advanced a considerable distance from the main body, in the direction of the enemy, so as to give timely notice of his approach or vicinity, and, further, to oppose such a preliminary resistance to his advance as may give the main body time to prepare for attack.

Should the main body be on the march, its security is provided for in its front by detached parties forming an 'advanced-guard,' in its rear by detached parties forming a 'rear-guard,' and by 'flanking parties' on its flanks.

Should the force be halted, the covering parties are formed into a chain of 'outposts' in fixed positions.

To ensure the perfect safety of an army, however, whether on the march or at the halt, it is not only necessary to watch for the enemy's approach and to ward off his attack on the main body by advanced troops, but it is also indispensably necessary to obtain sure and accurate *information* respecting the enemy's movements.

Security and information, therefore, are so inseparably connected, that it is impossible to consider the one without the other.

Information is obtained in two ways :

1st. By the reports of spies, deserters, prisoners, &c. ;

2nd. By reconnaissance.

The consideration of the first of these methods does not come under the head of Tactics, although the same department of intelligence at head quarters of an army in the field would receive and collate the reports from either source.

*Reconnaissance* may be defined as any movement of troops designing to observe :

1st. The enemy—his strength, position or movements.

2nd. The country—its nature and resources.\*

A reconnaissance may be made by a large force, by a small party, or by a single man.

Reconnaissances are usually effected :

1st. By detached forces of cavalry moving out far in advance of the main body.

2nd. By reconnoitring parties of cavalry, or infantry, or both, or sometimes of the three arms combined, pushed out from the main body or its advanced posts, at whatever points, front or flanks, may be necessary.

The detached forces of cavalry in advance of the main body here alluded to, besides collecting information, have other functions called screening duties, which contribute much in modern warfare to the safety of the army in rear.

\* The second part of reconnaissance is treated in the first volume of this series.

The whole of the arrangements, therefore, for security and information are as follows :

The advanced cavalry, detached for screening and reconnoitring duties, spread a veil round the force of which they form a part, and contribute to its security by the information which they obtain of the country, the scene of operations, and of the numbers, position, and probable intentions of the enemy.

Behind the screen or veil thus formed by the cavalry, the main body on the march is also protected by its advanced-guard, flanking parties, and rear-guard, the duties of which are carried out as strictly as if the cavalry were not in front, reconnoitring parties being despatched from the advanced-guard, rear-guard, or main body to examine special points, wherever thought necessary.

Similarly, at the halt, a chain of outposts is immediately formed in front of the army, with the same regularity and care as if the veil of cavalry in front did not exist.

In the case of a retreat, the circumstances are somewhat altered. The rear-guard, which in a forward march merely performs the duties of police, to pick up stragglers, &c., now becomes the most important section of the covering detachments securing safety for the army, and is proportionately stronger than the advanced-guard as being nearer to the enemy.

The screen of cavalry is now in rear, instead of in front, to ward off the harassing attacks of the enemy's cavalry and assist the rear-guard in retarding the pursuit.

But it must not be supposed that all the foregoing conditions invariably exist in combination, especially where small bodies of troops are concerned.

If there is no cavalry available, there cannot be a screen in advance, and if the ground is not favourable for the action of cavalry, infantry would be substituted for it. Or cavalry may be acting alone and have to furnish its own advanced-guard, or its own outposts, as well as its reconnoitring parties. Or infantry may be acting alone, and depending on itself for all measures of security and information.

Each possible case should therefore be taken in succession, so as to study the course of action under varying circumstances.

We have indicated that we must consider the security of an army under two conditions, viz. on the march, and at the halt.

*On the march*, then, the safety of a column of troops is secured by an advanced-guard preceding it, by flanking parties on the flanks, and by a rear-guard following it. Of these, in a forward march, the advanced-guard is the most important; it should therefore consist of not less than one-sixth of the whole marching body. The rear-guard would be about half the strength of the advanced-guard, or one-twelfth of the whole. The flanking parties, except in very large forces, would be taken from the advanced and rear guards. Thus all the detached parties together would not, in such case, exceed one-fourth of the whole.

When the main force is large, the requirements of modern tactics would increase the proportionate strength of the advanced-guard, to as much as one-fourth of the whole body; but this proportion is not necessary with a small force, because it takes but a short time to deploy, nor is it advisable, as tending to produce weakness in the main column.

If the intention is to bring the enemy to a decisive engagement, the proportion of the advanced-guard must be large, in order to hold any good position it may have seized, until the main body comes up. Should an engagement be not desired, the advanced-guard should be no stronger than absolutely required, there being always danger of a large force so employed bringing about a general action.

Definite instructions upon this head should always be given by the commander of the troops, to the officer in charge of the advanced-guard.

In a forward march, the functions of the rear-guard are but of slight importance. We will first then direct our attention to the advanced-guard.

## THE ADVANCED-GUARD.

The principle of the formation of an advanced-guard is that it is made up of a number of detachments, increasing progressively in strength from the front to the rear. The object of each of these detachments is to guard against surprise the stronger body which follows immediately in rear, and to give the latter time to prepare for attack. This consideration regulates the distances to be preserved between strong detachments. When the detachments are small, the distances need only be sufficiently great to prevent the possibility of the rear detachment being suddenly brought under fire without notice.

The advanced-guard should be divided into the *advanced party*, with its *support*, and the *reserve* of the advanced-guard.

The strength of the reserve should be from one-third to one-half of the whole advanced-guard. The remainder forms the advanced party and its support, in the proportion of about one-third for the advanced party to two-thirds for the support.

The extreme front of the advanced-guard will always consist of a leading group, or *point*, of three or four men, under a non-commissioned officer if possible, sent forward from the advanced party.

If the advanced-guard be entirely of infantry, and small, say 150 men as an elementary case, it would be thus divided (Fig. 1, Plate V.). First, a leading group of four men under a corporal, flanked by two groups of three or four men each to the right and left rear, not more than 150 yards off the main route. The remainder of the advanced party follows at 100 yards from the point.

At 150 yards, a connecting file being between, the support follows, detaching, when required, two small flanking groups, to support and keep in sight the flankers of the advanced party. At 250 yards, connecting files being between, the reserve follows, consisting of half the force. It may detach to either flank, when desirable, one group of men thrown



forward, and another group thrown rather back supporting the former. None of these flanking groups should extend their distance laterally from the main route over 400 yards, under ordinary conditions.

A distance of 300 yards separates the reserve from the main body, which is thus 800 yards, or nearly half a mile, from the leading group of the advanced-guard.

If the advanced-guard be entirely of cavalry, and small, say a squadron of 96 men as an elementary case, it would be thus divided (Fig. 2, Plate V.). First, a leading group of four men under a corporal, and flanking groups of three or four men each at from 200 to 300 yards from the main route. The leading group would probably detach two of its number still farther to the front as scouts. The above groups, with their connecting files, constitute the advanced party broken up. At 500 yards from the point follows the support, with flanking groups, when required, about 500 yards from the main route. The reserve follows 500 yards farther to the rear, furnishing also, when necessary, two groups to each flank, one thrown forward, the other thrown back till within easy distance of the head of the main column, which is 500 yards from the reserve. Connecting files ride between the several portions of the advanced-guard on the main route. In this case, the point of the advanced-guard is about 1,500 yards from the head of the column it protects.

The flanking parties of either arm here mentioned can of course only move out when the country is open enough to allow of it. If it is so confined as to prevent this possibility, the advanced party and support are each sent forward entire, except that a leading group or point must still be in advance of everything. In the case of cavalry, two scouts would feel the way for the leading group. The reserve always remains a complete and unbroken body.

The advanced party is usually, with small forces, under the command of a non-commissioned officer, who acts entirely under and as a subordinate to the officer in charge of the support.

The support should always be under the command of an officer. He should remain on the route by which the main

body is to follow, and if possible keep the whole of his support with him. If, however, the advanced party is broken up into several groups over a wide front, as is especially often the case with cavalry, the support may also be broken up into parties, which will each act as support to the scouting groups in their front. These groups and their supporting parties would be echeloned back to either flank. Their theoretical dispositions are shown in Fig. 3, Plate V.

It is the duty of the commander of the support to see that the proper road is followed. He must have a map and be able to read it, as the whole safety of the army in rear may depend upon the right turn being taken. He should give clear directions to the non-commissioned officer of the advanced party, and if any doubt occurs he must verify the direction himself by going to the extreme front. Should cross roads be passed, where the main column might go astray, a man should be left to direct its march. If the officer is mounted he may occasionally proceed to points from which a good view of the country is obtained. When approaching an enclosed country where his ordinary flankers cannot work without retarding the march, he must send out special patrols, as also, if he sees signs of the presence of the enemy's patrols. The great point, however, to be borne in mind, is, that the advance of the column must not be delayed, unless when absolutely necessary. Hence it is very desirable that enough cavalry for flanking patrols should accompany the support of every advanced-guard.

If guides are available they are attached to and march with the support, being sent to the extreme front as may be necessary. Connection must always be kept up between the support and advanced party, and if the latter is weakened by sending men to the rear with news, it should be reinforced from the support.

The support marches at attention, on as broad a front as the road will permit.

Reports from the advanced party should be verified by the commander of the support so far as possible, and it may often be desirable to let the same man who brings in the

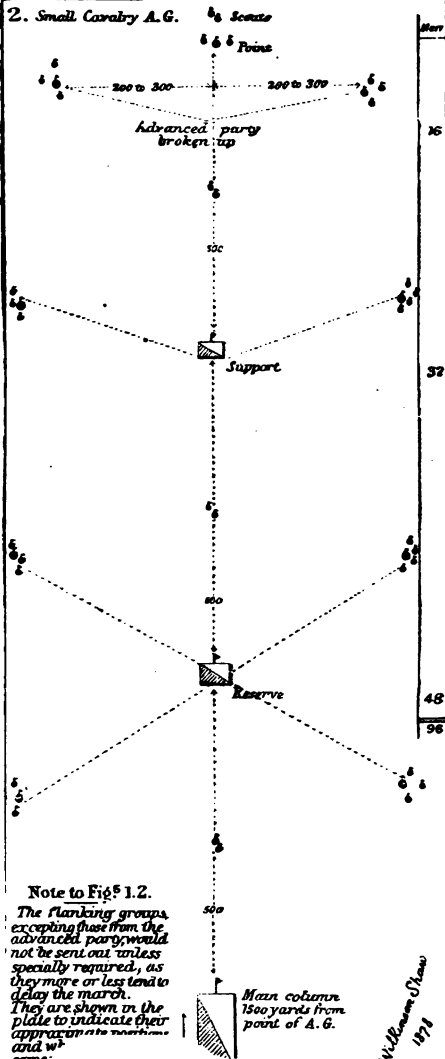
news, go on with it to the commander of the advanced-guard.

The commander of the advanced-guard remains with the reserve. It marches at attention on the main route, always ready to move quickly to front or flank if required. When possible, flanking patrols from the reserve move on each flank. They are to examine houses, farms, &c., standing back from the route, and preserve connection with any columns that may be advancing on other roads to right and left. Should there be any fighting it is done by the reserve. The advanced parties feel, observe, and reconnoitre, but when it comes to pushing home an attack the reserve must be brought up as quickly as possible. This does not mean that the advanced parties will not usually be able to sweep back the enemy's feelers and scouts if they are encountered. So much they will doubtless be able to effect, but should more serious resistance be met with, it is their duty, even at the cost of delay, to obtain reinforcement, or to fall back on the larger body in their rear, so as either to ensure the advance being pushed successfully, or that such obstacle to the enemy's nearer approach be offered, as shall give the main body time to prepare for action. The principle on which such rules for action are based is that it is the essence of the duty of an advanced-guard to be *successful* in repulsing the enemy, or in holding him back a sufficient time. The strength of the men should not be exhausted in trifling encounters, the number of which would be never ending, but, at cost of delay in waiting for reinforcement, the enemy should be surely met and surely held, whenever he opposes the advance.

The distance of the head of an advanced-guard from the main column varies according to circumstances, and cannot be dictated by rule. It may, however, be fairly remarked with reference to the principal duty of the advanced-guard, that if the main body requires to be afforded a long time to prepare for the engagement—in other words, if the column of the main body is deep, and would take much time to form up—the distance of the head of the advanced-guard must be a long way in advance. But if the country is difficult to

Advanced-Guards.  
and distances in yards.

2. Small Cavalry A. G.



Note to Fig 5 1.2.

The flanking groups excepting those from the advanced party, would not be sent out unless specially required, as they more or less tend to delay the march. They are shown in the plate to indicate their approximate positions and where they come.



traverse, and the enemy's advance can be easily retarded, the head of the advanced-guard need not be so far in front as if the country is open, and the advance of the enemy would be uninterrupted. Or, if the advanced-guard is strong, and can hold the enemy, it need not be so far in advance as if it is weak, and liable to be driven rapidly back. Again in thick or foggy weather, or at night, the distance in front, of the head of the advanced-guard, would be reduced, as would also the breadth of front of the scouts, or flanking parties. Under such circumstances a long extended advanced-guard would be useless, and the proper direction of march might be lost. The enemy could also easily pass through a widely extended front, undetected, in a dark or foggy state of the atmosphere.

A very rough rule is sometimes followed, of ascertaining approximately what the distance should be from the head of the advanced-guard to the head of the main column. The distance is to be equal to the length of the column of the main body *en route*, on the assumption, that the rear of the column would then have time to form up for action, before the enemy could pass from where he encountered the head of the advanced-guard, to the position taken up by the column to receive his attack.

The two cases already given, of infantry and cavalry advanced-guards, being merely illustrations of what would be necessary as protection for small columns, where one arm only was available, we must now see what would be the disposition of an advanced-guard of all the three arms, constituted to secure the safety of a large force.

It is clear that the division of the advanced-guard into advanced party, support, and reserve, admits of a subdivision of duties which is very desirable. The nature of these duties leads us naturally to fix the position in the advanced-guard, of the several arms when combined.

Mobility is undoubtedly necessary for the advanced files, and reconnoitring their duty, cavalry must therefore be at the head; and not only at the head but to reconnoitre to the flanks, for infantry employed on this service, to any distance,

would delay the advance, and the men be soon exhausted by the extra fatigue.

The advanced party, and also the leading portion of the support, would therefore be cavalry. But cavalry should not compose the whole of the support, as cavalry meeting hostile infantry would naturally be checked. The support, then, to fulfil its complete mission, should include infantry. A few engineers would accompany the support, in order to be near at hand when required, to repair a broken bridge, or assist in removing an obstacle to the advance. The pioneers of infantry would also march with the support, to render like service.

The reserve would be composed of all the three arms, in order to withstand the enemy and fight him. Infantry at the head, followed by the artillery, then by more infantry, and finally by the remainder of the cavalry not employed in the advance.

The ambulance, and the engineers not with the support, would bring up the rear of the advanced-guard.

The circumstances under which guns would require to take a more forward place in the march of an advanced-guard are of rare occurrence. In a mountainous or hilly country, much enclosed, a few guns might perhaps accompany the support. In such a country they would be comparatively safe from sudden attack or reverse, the enemy being hampered in his movements by the ground, and they would be close at hand when required for any special purpose, such for instance as silencing the enemy's guns brought to bear on points which must be passed by the advanced-guard. A couple of guns are also sometimes of use with the support, in order to clear the road in front without loss to the infantry.

As a general rule, however, they would be close enough to the front when with the reserve. We have seen that guns cannot come into action, without serious risk to themselves, under the effective fire of infantry. If marching with the support, their distance from the extreme front would probably not exceed 800 yards, except in the case of a very large advanced-guard. Hence, on meeting the enemy the guns

would be inconvenienced by the close proximity of the hostile infantry. But slight delay in coming into action would be caused by their marching with the reserve, and they would undoubtedly have a greater choice of positions, all within artillery range but beyond infantry range, as they came up, than if they had occupied a more forward place in the column of route. Their place in the reserve would be near its head, only covered by sufficient infantry to prevent surprise.

Some examples of advanced-guards, showing their orders of march, are given in Plate VI.

#### THE ADVANCED-GUARD APPROACHING A VILLAGE OR TOWN.

Many of the minor tactical details incidental to the march of an advanced-guard will be discussed in a future page under the head of Reconnoitring, but special attention must be drawn to the distinctive duties of an advanced-guard on approaching and entering a village or town.

On coming within sight of the village the advanced-guard halts on the main route, while the advanced party, preceded by its point, moves on to reconnoitre. The point is pushed forward well to the front, and at the first houses outside the town an inhabitant must if possible be seized, to give information. A youth or intelligent child will be often more likely to tell what is required than a grown-up person. Should there appear, from the answers obtained from inquiries or from the preliminary reconnaissance made by the point, any suspicion of the enemy's presence, the village must be turned by a portion of the advanced party, or by the support if necessary, and entered simultaneously by the front and on a flank.

If the village appears to be unoccupied the point must at once enter, so that there may be no delay. The method of doing so will depend upon the instructions the commander of this group has received. Should the enemy's scouts or patrols be in the vicinity, he may have been ordered to secure the entrance to the village on the farther side. In this case, as soon as he perceives the patrols are not in actual occupation of the town, he would rush with his party up the main



street, and seize upon the farther outlet. On the other hand, should there be no immediate necessity for this action, the commander of the point would probably have been instructed to advance into the village quietly and with due precaution.\*

The flanking patrols of the advanced party would also move up, and enter by the flanks, or by any side roads or streets.

The point making signal to the rear, to the effect that all appears safe, the advanced party closes up rapidly to its proper distance. As it enters the town, patrols are detached up any lateral streets or roads, always keeping up their connection with the centre.

The commander of the advanced party seizes on the telegraph and post office, with all papers found therein. Should there be a railway station it is also held, and men are specially told off to stop communication up or down the line. All telegraph wires are disconnected, or joined together and partly run to earth, in order to confuse the signals.

The chief man of the village, or postmaster, having been found, is handed over to the commander of the support on his arrival, together with the documents seized. All information required is obtained from these and other sources.

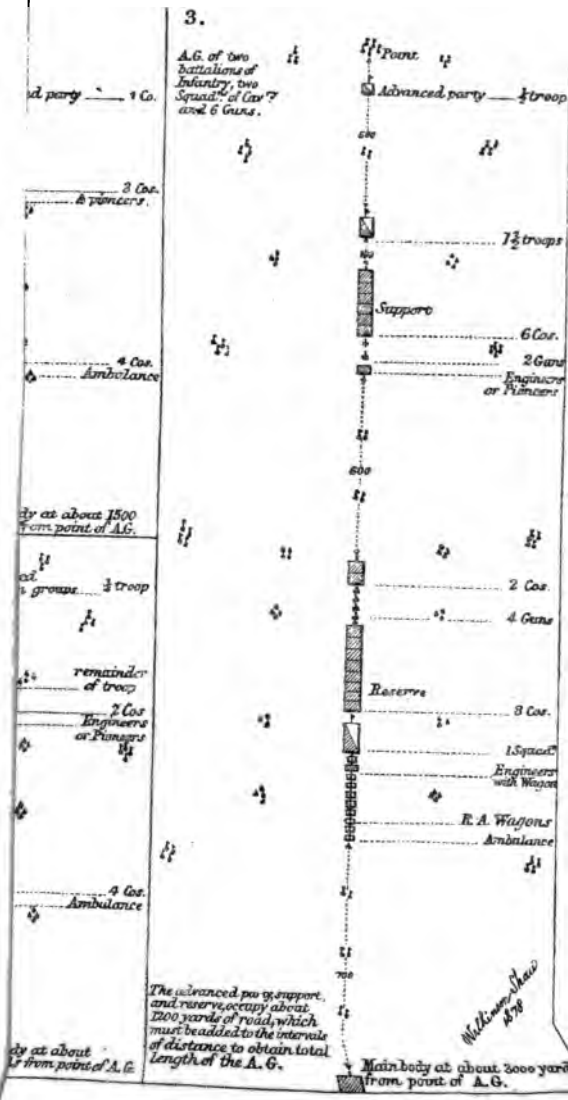
Should there be occasion for it, the points necessary for defence of the town are at once occupied, but, otherwise, on arrival of the commander of the advanced-guard, the reserve of which has halted at the entrance, the order is given for the column to resume its march, when the point or leading group again takes its position as pioneering patrol of the whole.

By night, the operations of the leading portion of the advanced-guard would be conducted in a similar manner, but the distances separating the different parties from one another would be less, and the patrols would not get so far from the main column.

The march should, if possible, be so regulated that the village or town, the position of which is known by the map,

\* Vide p. 123 the method of passing through a village recommended for a small patrol.

# Advanced Guards. Intervals and distances in yards.



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27

may be reached a little before daybreak. Great care must be taken by the advanced scouts in passing the outlying houses, not to rouse the inhabitants prematurely by noise which might set the dogs barking. Some person should first be seized from whom intelligence can be obtained.

Should the village be occupied in any force, the earliest information of this will probably be obtained by the advanced scouts of the point, who, being a considerable distance in front, come upon the enemy's sentries or vedettes outside the town. The point, immediately upon this discovery, should fall back unperceived, the leader running back with the news till he meets the commander of the advanced party. The latter communicates the information to the rear, and the officers of the support and reserve coming up, the former with his party, a reconnaissance, secret or open according to circumstances, is now made of the village, to see if the enemy really occupies it. This is commonly done by a strong patrol working round to one flank, which can first reconnoitre, and finally force the village, if necessary, from that quarter, combining with a front attack of the advanced-guard.

#### FLANKING PARTIES OR GUARDS.

The detached parties patrolling on the flanks of the column to secure it from attack and to reconnoitre, will be further alluded to in the chapter on Reconnoitring, and do not require much present remark.

Added to the rear-guard they complete the circle of defence within which the main column advances safely. In the case of small forces these parties are furnished from the reserve of the advanced-guard. With large forces they would be separate parties, detached under distinct commanders from the main body.

## MARCH OF THE MAIN COLUMN.

When the enemy is met with, the notice of his approach given by the advanced-guard to the main column will not, in all probability, enable the latter to prepare for attack with sufficient readiness, unless the order of march of the column has been regulated with a view to this contingency. Thus in a forward march, when the enemy is known to be near at hand, the various arms should be so disposed in column of route as to be enabled to be brought up, with least delay, in the order in which they would necessarily come into action. The main column would usually be headed by a small portion of infantry, just sufficient to protect the artillery, which being required from the earliest moment of a modern engagement should therefore be close to the front. The guns would march all together (excepting such as may be with the advanced-guard), sometimes without their wagons, but more usually with one wagon to each gun. The artillery are followed by the infantry, as this is the arm which must come at once into position to check the enemy's advance. A portion of the engineers would be with the advanced-guard to clear away obstacles or repair a broken bridge; but the remainder, with the necessary tool wagons, would probably march immediately after the infantry, where they would not be too far from the head of the column to be made quickly available in case their services are demanded. The cavalry (excepting that portion employed either in the extreme front or with the advanced and rear guards) would come next. The superior mobility of this arm enables it to be brought up sufficiently quickly from a rear position to the flanks or front whenever required for action. Finally the remainder, or all, of the artillery wagons, the ambulance, supply, and baggage wagons, would bring up the extreme rear. A small rear-guard, assisted by a detachment of military police, would follow the main column.

## EXERCISE III.

## ADVANCED-GUARD AGAINST ADVANCED-GUARD.

## IDEA.\*

The advanced-guard of a small column (Red) on the march from Hamden *via* Garrads Cross to Upper Bascombe, comes in contact with the advanced-guard of a similar force (Blue) on the march from West Enton *via* Glenfield to Wolverton. The strength of the two main columns is about equal as regards infantry and cavalry, but Red is very superior in artillery, Blue having only one battery, two guns of which are with his advanced-guard.

Strength of the advanced-guards :

<i>Red.</i>	<i>Blue.</i>
Infantry, 8 companies.	Infantry, 3 companies.
Cavalry, 1 troop.	Cavalry, 1 squadron.
Two guns.	Two guns.

The cavalry of each advanced-guard is furnished with appliances for destroying bridges.

During some late operations Glenfield Bridge has been rendered more or less impassable, part of the arch having been destroyed.

## FIRST STAGE: 8 A.M. to 8.5 A.M.

*Red.*—On nearing Rainham Hill, the point has been pushed on well to the front, and its advanced scouts have reached the

- \* When reading the Idea the student should refer to the small scale map of the surrounding country (given as a frontispiece, and also printed in the margin of the six-inch Minor War Game map), as well as to the special plate at the end of the Exercise.

far crest. The two flanking groups are right and left, while the remainder of the advanced party, (half a troop in all), has just reached the plateau. The support, (half a troop and one company), is 500 yards in rear, having crossed Stanton Bridge. The reserve, (two companies and two guns), follows at 500 yards, while the main body at a further distance of 700 yards is nearing South End Bridge.

The leading scouts of the point are thus 2,000 yards from the main column.

On reaching the far crest of the hill, the chief of the leading group makes out, with his glass, Blue scouts advancing up the common beyond Five Roads Cross. He signals to the rear, and the commanders of the advanced party and of the support come up. At the same time the left flanking group bring in a boy, whom they have found near Rainham Wood. On being questioned by the officers the boy informs them that Glenfield Bridge is partly broken down, but that it can still be crossed by people on foot. The commander of the support, on hearing this, orders the leader of the advanced party to take his half-troop on at once, for the purpose of completing the destruction of Glenfield Bridge. The cavalry advances at a trot, and at 8.5 A.M. has reached the common, passing by the Royal Arms Public-house.

*Blue.*—The leading group of the advanced-guard is 500 yards north of Five Roads Cross. The left group moves up the hollow road on the flank to Ashdown Hill, which it reaches at 8.5 A.M. The point remains at the cross roads to receive the signal of this party. The right flanking group is 400 yards to the right rear, while the remainder of the advanced party, (half a troop in all), is close behind on the main road. The support, (half a troop and one company), is 400 yards from the point, and the reserve, (two companies, one troop, and two guns), follows at 500 yards' distance. The main body is 1,500 yards from the leading group of the advanced-guard.

On the left flankers reaching the high ground east of the cross roads, they catch sight of the party of Red cavalry which has just reached the common. Signal of 'enemy in sight' is made to the commander of the advanced party who has reached Five Roads Cross, and the point is accordingly sent on to reconnoitre.

## SECOND STAGE: 8.5 to 8.15 A.M.

*Red.*—Blue's scouts on Ashdown Hill are now made out, and also the advanced parties at Five Roads Cross. The commander of the advanced-guard arriving on the heights orders up his guns, which are still south of Stanton Bridge, and determines to hold Rainham Hill, his instructions being to secure the passage of the Tarbor River for his main column. He approves of the attempt to destroy Glenfield Bridge, as the stream is probably not fordable on account of recent rains, and the enemy will thus be restricted to passage at the more distant bridge farther down the stream.

He despatches the remaining half-troop of cavalry towards Garrads Cross, for his line of advance being in that direction it is very necessary to prevent the march being headed when resumed.

At 8.10 A.M. the company of the support arrives, and is placed to line the north edge of Moor Copse, and some fences on the other side of the road farther east, in continuation of the same line.

Meantime the half-troop of cavalry which has reached the common forms up into line as it gets on to open ground, breaking into a gallop as it does so, and, skirting the east of the town, reaches Glenfield Bridge in a little over two minutes. The bridge is found to be partly destroyed, but still passable for infantry. Half the party immediately dismount, a few of them with carbines to protect the remainder while engaged in the demolition. Blue's advanced groups of reconnoiters perceive the movement towards the bridge as soon as the Red cavalry is clear of the houses; they advance at a gallop to resist the attempt but are too late, and being received with the fire of some of the dismounted men on the south bank are obliged to fall back. The remainder of the dismounted men are pioneers, and provided with gun-cotton. The brickwork of a portion of the arch which is left being exposed, they are enabled to fix the charge at once, and succeed in blowing it up in four minutes, thus completing the destruction of the bridge.

The party now remounts, when the commander perceives that Clip Bridge is in the hands of the enemy, and that Blue cavalry is crossing it in force. Red falls back on Glenfield pursued by Blue, until the latter is checked by the fire of Red's guns, which arriving on the plateau of Rainham Hill are brought into action



at 8.10 A.M. at a range of about a mile from Clip Bridge. Blue cavalry, which now consists of the leading groups of the advanced party reinforced by the half-troop of the support, retires to west of the town, while the Red cavalry halts near the Royal Arms.

At 8.14 A.M. the reserve of two companies comes on to Rainham Hill, and is posted 200 yards in rear of the extended company.

*Blue.*—As the leading group pushes forward from the Five Roads Cross to reconnoitre, the chief perceives a party of Red cavalry emerge from among the scattered houses east of the town, and advance at a gallop towards the bridge. Signal is passed to the rear, and the point at full speed endeavours to reach the bridge before Red, but is unable to do so. The latter receives Blue with a sharp fire of carbines from some of his dismounted men, and although the advanced party comes up to assist the point, Blue is unable to save the bridge. The advanced party then crosses at Clip Bridge, and is shortly joined by the half-troop of the support, but, as has been seen, the Blue cavalry is unable to cut off the Red cavalry although superior in force, and has ultimately to fall back to the south-west of the common, where the ground near the foot of the hills defilades it from artillery fire.

The commander of the advanced-guard on arrival at the cross roads, bringing up with him part of the cavalry of the reserve, finds the half-troop of the support gone on to Clip Bridge, and the company of infantry following the same route. He orders up the two guns and the remainder of the troop of the reserve. The guns arrive and are brought into action at 8.14 A.M., on an underfeature of Ashdown Hill, east of the cross roads. Half a troop of the reserve cavalry is with the guns. The other half-troop has been sent on at once by the commander to follow the support, and it gets to Clip Bridge by 8.15 A.M. Here it is enabled to cross, as the attention of Red's artillery is diverted for the moment from the bridge, by the opening of fire from the Blue guns.

#### THIRD STAGE: 8.15 to 8.20 A.M.

*Red.*—By the commencement of this stage the whole advanced-guard is in position, and the two guns have been in

action for five minutes, four of which without reply on the part of Blue. The cavalry sent out towards Garrads Cross is in observation to give early information of any movement in that quarter, having scouts on the hill near Hanley Wood; but Blue's advance seems to be directed upon the other flank. His cavalry which has just crossed Clip Bridge, joining the leading troop, forces the Red cavalry, which has moved forward to the south of Glenfield Church, to fall back, but following too far in pursuit, Blue comes under infantry fire from Moor Copee, and is forced to retire in confusion.

By the end of the stage the principal portion of the main column has safely crossed Stanton Bridge, and has taken up a defensive position on Rainham Heights. The guns of the main body, reinforcing those of the advanced-guard, soon silence Blue artillery, although the four remaining guns of the enemy's battery have joined the others upon the lower slope of Ashdown Hill.

The Red guns then open on the head of Blue's main column of infantry, which appears near the cross roads.

The Red advanced-guard, being thus liberated for another forward movement, proceeds towards Redburn Hill, to co-operate with the artillery action, and to prevent Blue from attempting to occupy the high ground in that quarter.

*Blue.*—Blue continues to endeavour to pass his force over Clip Bridge, the company of the support arriving there at 8.18 A.M. Being, however, exposed to flanking artillery fire in this movement, he is obliged to desist on the Red guns being reinforced.

The guns on Ashdown Hill are joined by the four remaining guns of the battery, but are nevertheless soon forced to withdraw in the presence of Red's superior fire.

The head of the Blue main column has by this time advanced up the Common nearly to Five Roads Cross, but the error made by the advanced-guard in not securing Redburn Hill is now apparent, and the march is directed thereon by way of the hollow road already mentioned.

#### OBSERVATIONS.

In this exercise is seen the advantage to be derived, from scouts and leading groups of an advanced-guard being well to

the front when nearing dangerous ground. On approaching a tactical point, such as a river to be crossed, a line of heights to be occupied, or a commanding position to be seized, the extreme feelers of the advanced-guard should be pushed on farther to the front, and the whole held in readiness to follow up immediately any advantage gained thereby.

Red, by receiving timely information of his adversary's approach, and by being ready for immediate action, was enabled to secure the passage of the river for his main column.

Blue failed to appreciate the tactical importance of the ground about Redburn Hill in his preliminary advance, and it is extremely doubtful whether his movement in that direction at the end of the third stage, in the face of superior artillery fire, could meet with any success.

Blue's preponderance of cavalry with the advanced-guard, which should have been an advantage to him in an open country, was of little avail, owing to that arm having been kept back till too late for efficient action.

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## CHAPTER V.

SECURITY AND INFORMATION (*continued*).

WE must now consider the duties of the covering detachments of an army when it is *at the halt*.

An army or force has halted after a march, and, whether the intention is to remain for a brief time or a long, it must at once protect itself by advanced covering detachments, called outposts. The advanced-guard, which has already halted a considerable distance in front of the main body, would naturally assume the duties of the outposts if the troops composing it were fresh enough. If they have been much harassed during the day's march, fresh troops would be sent up in relief from the main column, and until their arrival the advanced-guard must hold the ground. The distribution of the parts of the outposts corresponds generally with that of the advanced-guard, and their duties have much of the same character, but in matters of detail and their mode of execution many essential differences demand the special attention of the military student.

We have already alluded to the advanced force of cavalry which covers the front and flanks of an army in the field. Behind this screen the outpost line would be formed as an additional protection, but its functions are simple and few so long as the cavalry remains in advance. Should the cavalry be driven in, or should the enemy break through the advanced screen at any point, the outpost line is ready for action, and the enemy is arrested in his progress at sufficient

distance from the main body to enable the latter to prepare for battle.

In the event of there being no outside cavalry cordon or screen, the outpost line is the sole protection to the main body at the halt, and becomes of the fullest importance from the very first.

#### OUTPOSTS.

It was formerly laid down by military writers that outposts have two distinct and separate functions—one to secure the safety of the corps which establishes them—and the other to reconnoitre and obtain information of the enemy's movements and dispositions.

The second duty, however, as it should be carried out, is not a distinct function of equal importance with the first. Outposts should not attempt to reconnoitre farther than is necessary for the proper execution of their main duty, which is to secure the safety and repose of the troops in rear. Information so far as can be obtained of the enemy's movements and even of his intentions, by careful watching, by observing indications, and by patrolling within certain limits, should be eagerly sought for by the outposts; but if reconnaissance is required of a more extended character it should not be carried out by the general outpost line, but by special parties pushed forward from the main body, sometimes from the reserve of the outposts. Such work is well suited to cavalry, but sometimes infantry must be employed.

The duties of the outposts may be taken as follows in order of importance:

1st. To check the advance of an attacking enemy, for such time as will ensure the safety of the army, by enabling it to prepare for action.

2nd. To secure repose for the army by the assurance of immunity from surprise, and by checking reconnaissance on the part of the enemy.

3rd. To obtain such information about the enemy as may be necessary in carrying out the foregoing duties.

There is no service in the field in which the two arms

infantry and cavalry can be more usefully united than that of outpost duty. Infantry are necessary to give the independent resistance to an advance that is required of an outpost line ; cavalry are required to observe the enemy in front and collect information of his movements, as well as for the rapid transmission of intelligence to the rear.

Artillery if added would usually be with the reserve, when the guns should be posted so as to cover the retreat of the advanced portion of the outposts, or else be held in readiness close to a main route to proceed at once to any required point as the attack of the enemy develops itself. Guns are, however, occasionally more to the front, when, without unduly risking their safety, they can be placed so as to command ground which must be passed by the enemy in his advance. The enemy may thus be forced to lose time by deploying when still at a considerable distance. The guns posted near the front line should be safe from surprise, and either out of range of the enemy's effective rifle fire, or protected from it by skirmishers thrown out in advance of the guns. With proper precautions an artillery outpost may often be placed in an advanced position, probably on a flank, where, being well covered by the guns of the main body, it need not retire until it has accomplished its object, supporting the infantry as they fall back from point to point. For this and all other purposes of delaying the enemy, however, advanced guns must avoid taking position within artillery range of ground which the enemy's batteries could reach and take post on unperceived.\*

Horse-artillery acting with cavalry may sometimes, if well supported, be pushed still farther to the front, for the purpose of making the enemy develop his attack early in the day.

In deciding the relative fitness of infantry or cavalry for outpost duties, or their proportions in a mixed force, the nature of the country must be taken into consideration. In a close country infantry is more suitable ; in an open country cavalry from its mobility possesses an advantage over the

\* Hamley 'On Outposts.'



other arm by day. At night whenever infantry can be employed it replaces the cavalry. But infantry and cavalry should on no account be mixed together in one line ; for the cavalry, attacked by hostile infantry, might be forced to retire, in which case the enemy could take the other portion of the line in flank.

Cavalry may, however, on occasion be usefully combined with infantry, by taking the more advanced positions ; being sent, for example, to occupy high ground, or perhaps the far side of enclosures, beyond safe distance for infantry.\* The infantry line would in such case be continued in rear, as if the cavalry were not in front.

Cavalry must at times perform all outpost duties alone. It may be that they are acting by themselves and have no infantry with them ; or it may be that the country is so open that infantry would be out of place, the wider view, and more extended circle of observation possible for cavalry, becoming a necessity.

#### DIVISION AND VARIOUS DUTIES OF THE OUTPOSTS.

The authorised instructions lately revised in our service for both infantry and cavalry outposts are clear and full, and their careful perusal by the student is strongly recommended. The outposts are divided into three portions :

1. The piquets, including sentries, or vedettes, patrols and detached posts.
2. The supports to the piquets.
3. The reserve of the outposts.

Each of these bodies will so far as possible consist of complete units under their own officers, and it is specially directed that piquets and their supports be furnished from the same corps.

The force employed on outpost duty should never be larger than is absolutely necessary, a maximum of one-sixth of the whole force being seldom exceeded. Should necessity arise for a larger proportion being temporarily employed, the

\* Hamley 'On Outposts.'

extra duty should be reduced again as soon as possible, in order to avoid overtaking the strength of the men. Nor should a commander, at any time, so employ more men than the duty absolutely demands.

When the force to be covered is small, or when the main body bivouacs in a defensive position where it can quickly form into order of battle, we are told that the reserve may be sometimes dispensed with. In the Peninsular War inlying piquets were generally substituted for reserves, as the men remaining in camp until required to turn out had thus less hardship to undergo, and the duty fell less severely upon them. The introduction of arms of precision and long range has no doubt greatly altered these conditions, and the distance to which the outpost line must now be pushed forward is consequently more extended than in former days. Hence the greater necessity now for an intervening body of reserve troops. Yet the practical difficulty on service, of providing reserves without unduly harassing the men, must ever remain the same. It is therefore a question whether it would not still be well to continue to make use of the inlying piquet, in cases where a reserve of some kind could not be dispensed with, but where the distance was not too great for it to remain in camp until required to act.

There are two systems of outposts which are known as the *Cordon system* and the *Patrol system* respectively, a combination of the two prevailing with us. By the first system a line of sentries prevents any passage whatever on the part of the enemy; by the second system constant patrolling in front of the outposts prevents the passage of bodies of the enemy even if it does not completely bar the way to individuals. The difficulty of continuing the cordon system in its entirety during the night or in foggy weather is now recognised in our service, the chief reliance under such circumstances being directed to be placed upon patrols, the various avenues of approach being only guarded by sentries.

#### POSTING OF THE OUTPOSTS.

The commander having been informed of the general object to be effected by the outposts, and the extent of

ground to be covered, determines how far the line of resistance should be in front of the army.\* Even in the absence of a personal inspection of the ground he can decide this approximately by reference to his map, and by knowing the time necessary for the main force to prepare for action. A line of observation in advance of the line of resistance would next be looked for in the map, a ridge of hills, the bank of a river, or some marked features of ground being usually selected. Should the force be a strong one, the position for the reserve, in rear of the line of resistance or supports, would then be chosen, and the officers in command of the supports would be shown the general dispositions thus arranged. The strength and composition of the reserve would also be determined, and the supports marched off in the general direction of the ground they are to occupy. The number of the supports would depend chiefly upon the number of main approaches to be watched, and each support would be strong enough to furnish the piquets necessary to guard its own front. The reserve would be finally marched, by the commander of the outposts, to the spot selected. Both the supports, and the reserve, would advance with great caution, preceded by scouts.

The commanders of the supports, having proceeded a sufficient distance to the front, would select positions for their supports, and send forward therefrom the piquets intended to cover the front.

The commanders of the piquets would advance to their ground with still greater care, the enemy being possibly close at hand. Having halted their piquets, in rear of the line of observation, they post their line of sentries, tentatively at first, with a view to cover the front rapidly and establish communication at once from one flank to another of the line. The line itself can be altered or corrected subsequently by the commander of the outposts, if it be necessary, and

\* If the outposts in question are only one portion of those covering a large front, the commander must necessarily act in concert with the commanders of the outposts of other parts of the army, right and left, upon this and many other points.

the piquet commanders should then conform thereto and make final corrections of the positions of their sentries. It is laid down that the whole of the outposts should remain near their arms on the alert until the arrangements are completed.

#### SENTRIES.

Each piquet furnishes a chain of double *sentries* to watch the country in front, and to connect with the neighbouring piquets. No more posts should be established than are absolutely necessary. In fairly open ground by day they may be from 200 to 400 yards apart for infantry, and up to 600 yards apart for cavalry mounted sentries called *vedettes*. Sentries should not be more than 400 yards in advance of their piquets. *Vedettes* may be as far as 600 yards from their piquets. In both cases two men are placed at each post whenever possible. It may sometimes be necessary for the sentries of an infantry post to patrol in turn towards the post next to their own, for purposes of better observation ; this should, however, only be done when there is no danger of exposure to the enemy's view, as it must never be forgotten that the first maxim for a sentry of observation is to see without being seen. The men of a cavalry post should be from 20 to 30 yards apart from each other, near enough to communicate when required but not to encourage conversation.

Sentries or *vedettes* should have clearly in view the men of the posts on each side of them, and no ground in front of two adjoining posts should be unseen by the sentries of both posts. Sentries as a rule should not fix bayonets by day nor on bright moonlight nights, as the glitter of polished metal is seen farther than even the brightest colour and always attracts attention, but as a safeguard against surprise they should invariably do so on dark nights or in thick weather. *Vedettes* have their carbines drawn, loaded, and at the advance. The lance flag of lancers should be removed or furled. At night, sentries should be placed so as if possible to bring any advancing person against the skyline, they themselves remaining in shadow ; but as it is impossible to continue the cordon system

with strict effect at night, sentries would in general be only placed on the roads, and other lines of approach. Vedettes would be withdrawn altogether at night, unless there were no infantry available, in which case they would be placed on the roads or passages through which an enemy is most likely to advance.

The double sentry posts of each piquet should be numbered continuously from the right. The men should be relieved every two hours by day and every hour by night.

*Connecting sentries.*—The communication between double sentries and piquets, and between advanced detached posts and the chain of sentries, is kept up when necessary by single connecting sentries. Detached posts of cavalry, however, being usually at some distance, would have to be connected by patrols.

*Sentry over piquet.*—A sentry should be placed at the piquet, whose business it is to watch the double sentries, or the sentry connecting the piquet with them, and to call attention to any signals they may make or to any unusual occurrence. With cavalry this sentry is dismounted; but, if he cannot see all the vedettes, a connecting mounted man may be placed between the sentry and the vedettes, to pass back signals.

*Detached posts.*—When it is necessary for purposes of observation to occupy a post, to which access from the piquet is difficult, or the distance of which is beyond the limits laid down, or there is an exposed flank which requires to be specially guarded, a detached party may be sent out under an officer or non-commissioned officer, consisting of sufficient men to furnish the relief for the necessary sentries. Such a post should be relieved about every six hours. The sentries should be quite close in front of the party, for infantry; the vedettes about 200 to 300 yards in advance, for cavalry. Detached posts should light no fire under any circumstances. The men, if of infantry, should retain their equipment, and have their rifles always beside them as they sit or lie on the ground. If of cavalry, one half of the men should only dismount at a time, unless the enemy is known to be at a distance.

*Examining party.*—On the principal main route, or on each of them if there are several, a party of a non-commis-

sioned officer and four to six men may be stationed to examine all persons wishing to pass through the piquets. On the approach of any persons, one sentry would advance and halt them, at a distance from the line sufficient to prevent the piquet posts being overlooked. The other sentry on the post transmitting the information to the commander of the examining party, the persons are either interrogated on the spot where they stand, or else blindfolded before being allowed to penetrate the lines. Should they be deserters or suspected spies, they must be immediately forwarded to the commander of the outpost, without any preliminary questioning. Great care should be taken that by sending persons to the examining party along the line of sentries, opportunities for spying out what is to be seen be not afforded to the enemy, otherwise the practice would be of very doubtful value. Should there be no examining party, the officer of the nearest piquet will receive the report of the approach of any one to the lines.

#### PATROLS.

Patrols from the outposts are in our service to be considered as of three kinds :

1. Visiting patrols,
2. Reconnoitring patrols,
3. Strong patrols.

*Visiting patrols* consist of an officer, or more usually a non-commissioned officer or old soldier, and one or two men. They are sent out from each piquet between reliefs, and their duties consist in keeping up the communication between the piquet and its neighbouring piquets, as well as with its support in rear, and with its detached parties in advance. They test the watchfulness of the sentries or vedettes, aid them in case of sickness or wounds, or in examining doubtful objects from a fresh point of view, and bring back their reports. In visiting a chain of sentries an infantry patrol would first communicate with the nearest sentry of the next piquet on one flank, and then, proceeding along the front of the line of sentries, touch on the nearest sentry of the piquet on the other flank, returning by the rear to its own piquet.

A cavalry patrol, if the ground were exposed, might preferably move altogether in the rear of the line of vedettes.

Visiting patrols are especially necessary in a close country and in bad weather. In an open country, with clear weather, they may be much less often sent out during the day. If the line of sentries furnished by the piquet can be observed from some point of vantage near at hand, a non-commissioned officer being frequently sent there, to report on the appearance of things, may enable some of the daylight rounds to be dispensed with. The reliefs must be employed as visiting rounds, should the piquet be short of men for the duty.

*Reconnoitring patrols*, sometimes of late called with us exploring patrols, are sent forward a limited distance, not exceeding from half a mile to a mile for infantry, in advance, to examine ground which cannot be watched by the sentries, and to give notice of the enemy's approach. They commonly consist of an officer or non-commissioned officer, and two to four men. Cavalry may be safely despatched to a much greater distance than infantry. The Germans and French call the smaller of these patrols by names which signify crawling or creeping in the case of infantry, and secrecy in the case of cavalry. We have no appellations to express these meanings in our service.

*Strong patrols* are of the same character as the last, but of larger force and not necessarily secret. If of greater strength than a dozen men they would be furnished from the supports or reserve. Sometimes a company or troop, or even a larger body, would be despatched on such duty. They should not proceed farther than about a mile for infantry, from the line of sentries, and even then with mounted orderlies attached, for the purpose of conveying information rapidly to the rear. The object of strong patrols would generally be to obtain early information of the enemy's movements when he is at a distance, to ward off his patrols, and to prevent surprise; sometimes to engage a post, in order to ascertain the enemy's strength, thus acting on the offensive. In each case special instructions would be given for guidance of the commander. Above all things, strong patrols should avoid unnecessary firing. Firing signifies, to those in rear, that the patrol has not only seen the enemy, but that the

enemy has seen the patrol, and is advancing. An incessant fire, kept up in retiring, intimates that the enemy is in force and pressing the pursuit, but this signal should be abstained from unless it is necessary to arouse the troops in rear ; the outpost line must be most careful not to occasion false alarms, which are hurtful to the *morale* of the army.

As a general rule, in the absence of orders to the contrary, it would be best to retire steadily, if possible unperceived, as soon as the enemy is touched upon ; but sometimes, if opportunity serves, a prisoner or two may be captured, in order to obtain information.

#### PIQUETS.

The strength of a piquet will be determined by the number of posts for which it furnishes sentries or vedettes, in addition to the men required for detached posts, and for patrolling duties. The piquet acts as a support, or sort of anchor, to the sentries, vedettes, or detached parties which it furnishes. It is therefore posted in their rear, if possible centrally, and on a main route or thoroughfare. A mounted orderly or two should be attached to an infantry piquet. Sentries or vedettes are placed double, with the exception of sentries over the piquets, and also of connecting sentries or vedettes. For each double sentry post in three reliefs six men will be required, for each single sentry post three men. Patrolling duties must always be allowed for, the number of men required being determined by the commander of the outposts according to circumstances ; with cavalry piquets the proportion would generally require to be large, about one-fourth to one-third of the whole piquet. Detached parties are of a strength proportioned to the duty upon which they are sent. Thus a party to furnish one sentry, for a point advanced from the general line, would consist of four men, the senior being in command. If the sentry is to be double, six men, under a non-commissioned officer or senior soldier, would be necessary. Again, if a bridge on a flank, for instance, had to be guarded, the party might consist of a dozen or twenty men, under an officer or sergeant. This strength would allow of a double sentry



beyond the bridge, and of vigilant patrolling on the far bank of the river.

The requirements thus indicated being known, the strength of any piquet can be calculated, and if the numbers first allowed prove insufficient, reinforcement can be furnished subsequently from the support.\*

We have stated that sentries should not be more than 400 yards, and vedettes not more than 600 yards, in advance of their piquets, and that while the posts of sentries may be as far as 400 yards apart on moderately open ground, those of vedettes have a maximum interval of 600 yards, under similar conditions. From two to four double sentries are quite sufficient for an infantry piquet to furnish, and two to three double vedettes for a cavalry piquet. It follows that the infantry piquet would observe from 600 to 800 yards of front, whilst the cavalry piquet would watch a front of 1,000 to 1,500 yards. The piquets themselves may be from 400 to 800 yards from their supports in the case of infantry, and from 1,200 to 2,000 yards in the case of cavalry. Infantry piquets would thus be from 600 to 800 yards from one another, whilst cavalry piquets would be from 1,000 to 1,600 yards apart (*vide* Plate VIII.).

These figures are of course purely approximate, as the nature of the ground and other circumstances must immensely affect the dispositions in any particular case ; in a perfectly open country, in clear weather, for instance, the distances and intervals would no doubt be much increased. The principles, however, by which they should be calculated are simple, and ought to be borne in mind. The piquets, whilst being placed centrally as regards their sentries, should be close enough to aid and support one another in retreat, an

\* To prevent misconception it must be stated that this calculation is only made use of in practice to guard against the numbers allotted to a piquet falling below its actual requirements. It is commonly necessary to allot more men to some if not all of the piquets of an outpost than are necessary for the bare duties, in order that the front line may have sufficient strength for preliminary resistance should the enemy attack. The strengths of the piquets, figs. 1 and 2, Plate VIII., are calculated on this basis ; the numbers given also include connecting sentries and detached parties not shown in the diagram.

efficient flanking fire being mutually provided for in the case of infantry. They should not be too close in front of their supports, as the latter might in such case be demoralised by the piquets being suddenly driven in upon them, nor, on the other hand, too far distant to prevent the supports from advancing in time, to aid the piquets when hardly pressed.

From 25 to 50 men for infantry, and from 20 to 30 for cavalry, are generally sufficient for ordinary piquets. Where large detached parties are furnished by a piquet, its strength must be proportionately increased.

A piquet should be, if possible, posted on the route by which the enemy will probably advance, and a cavalry piquet should have ground in advance of its position favourable for action, in case it may be necessary to take the offensive in order to check the enemy. The position of the piquet ought to be so far concealed, that the enemy can only discover it by attacking; but there must be free movement in all directions, and especially easy means of communication, both with the flanking piquets and with the supports in rear.

As a rule piquets when stationed at bridges, defiles, or small villages, should be posted on the near side, the far side being patrolled or guarded by sentries if the distance is not too great. Woods thinly planted, if they come into the line of observation, may often be occupied by both cavalry and infantry piquets. There must, however, be a clear view to the front from the extreme edge, along which, in such case, the sentries or vedettes should be placed, the piquets being posted in the wood not far to the rear of the line of sentries. If the wood is very small its outer edge may be occupied by sentries, the piquet being placed immediately in its rear; but if the sentries cannot be so posted both piquet and sentries must be retired some distance to the rear of the wood, which should in such case be frequently visited by patrols. In a much wooded country it may occasionally be necessary for the outpost line to run through the centre of a forest or large wood; in that case the line of resistance should approximate closely to the line of observation, as but short notice of the enemy's approach can be given by the sentries. If it be possible, some marked line, such as a road or stream, or the

crest of a line of hills traversing the wood laterally, should be selected for the position of the piquets ; these ought, in this instance, to be many and weak rather than few and strong.

A piquet should not be posted in a house, or enclosed yard or garden, and a cavalry piquet especially must take care not to occupy any position which would cramp its movements on being attacked.

It is desirable that as many as possible of the roads which lead from the front should have met in advance of the piquet, and any road passing the flank to the rear should be viewed with suspicion and carefully watched.

Unless the flank of a line of piquets is secured by impassable ground or a natural obstacle, such as a swamp or a river, the flanking piquet must be thrown back ; it should furnish a detached party to prevent a turning movement of the enemy, frequent patrolling being also kept up on the exposed flank.

If part of the front of a line of piquets is covered by impassable ground or an obstacle, such as a swamp or broad river, the sentries may here be few, observation being carried on by patrols. All men employed on outpost duty are more or less deprived of rest, therefore they should never be unnecessarily numerous.

As a rule piquets are not allowed to light fires, their food being sent up from the rear ; but if fire is permitted, it should be carefully screened from observation, and so arranged that neither light nor smoke can betray its position. When no friendly wall, bank, or other cover, enables it to be well concealed, the next best precaution is to have close by a heap of wet sods or earth, with which the fire can be put out at a moment's warning. An alarm post for night will always be fixed a short distance in rear of the fire, so as to compel the enemy in advancing to expose himself by any light that it may give. The men of an infantry piquet pile arms, and they are all, or part at a time, usually allowed to remove their packs, every man retaining his own pack close beside him when taken off. None of the men should stroll to a distance from the arms. The horses of a cavalry piquet are always kept saddled and bridled, with the exception of a few at a

time, the saddles and numnahs of which may be shifted so as to ease their backs. In all cooking, eating, feeding, and watering arrangements, two-thirds of a piquet of either arm must always be ready for immediate action, but when not on patrol or sentry duty the men may be allowed to smoke. As regards sleep, only one-third at a time should be permitted to repose during the day, while at night all should be on the alert. To prevent confusion piquets are numbered from the right by the commander of the outposts.

#### SUPPORTS.

We have stated that the piquets are detached from the supports, they should therefore both come from the same corps; but in a mixed force, of course, troops of another arm might be added to the supports. In such case cavalry would only be employed with the supports where the ground was very open, and where they could efficiently assist in retarding the advance of the enemy by offensive movements. Under ordinary conditions, the main brunt of the resisting action of the supports must fall on the infantry.

Supports should be of a strength equal to all in front of them, and one support to every two or three piquets will be sufficient.

The line of resistance—that is, the line where the first important stand is to be made—having been decided upon in the first instance, the supports are placed at convenient positions thereon, as centrally as possible to their own group of piquets in front, and close to or on the main avenues of approach.

We have given the usual distances of the supports from the piquets, but in some cases, where the best line of resistance for infantry would appear to be close in rear of the best line of observation, the supports might be posted immediately in rear of the piquets, or even on the same ground.

The strictness of routine laid down for the piquets may be somewhat relaxed in the case of the supports; but they must be always ready to march, day or night, at a moment's notice, to any point required, or to stand on the defensive. The supports can generally light fires and do their own cooking as well as that for the piquets. If no fires are

allowed, cooked food must be sent up from the reserve, or else the piquets and supports must be satisfied with the cooked rations which they carry in their haversacks. When practicable, however, hot food of some kind should be provided for outlying troops. The horses of cavalry supports must be kept as available for action as those with the piquets.

#### RESERVE.

The reserve is intended as a general support to the lines of piquets and supports. It consists generally of from one-third to one-half of the whole strength of the outpost. This leaves, for the supports and piquets, either two-thirds or one-half of the whole. The subdivision, therefore, in the one case, would be, for the reserve one-third, for the supports one-third, for the piquets one-third; in the other case, for the reserve one-half, for the supports one-fourth, for the piquets one-fourth, of the whole strength.

The reserve ought to be placed out of sight of the enemy, occasionally divided into two parts, on a principal route or routes of retreat to the main body.

Its functions are to move to the reinforcement of the supports if necessary, or to occupy a good defensive position for the troops in front to fall back upon if required.

The distance from the line of supports must vary considerably according to circumstances, but would range under the more ordinary conditions from 500 yards to 1,000 yards for infantry, and from 1,200 to 2,000 yards for cavalry.

The reserve may bivouac, rest, cook, eat, and smoke, but should always be ready to act at the shortest notice.

#### SMALL POSTS OF FOUR MEN.

It is very desirable that the commander of an outpost line should have every latitude afforded him, in making such arrangement of his available troops as may best suit the ground which he has to guard. In very close and rugged country if the sentries and piquets are disposed in the fashion above laid down, it cannot but result, that great difficulty will be experienced in placing the former, so that they should be in sight of their neighbouring sentries and of

their piquets, and be also posted in such positions as to be easy of access from the piquets in case of need. It might therefore in some cases be advisable to adopt an alternative daylight formation, either for a portion or the whole of the outpost, it being understood that the circumstances are such as to render strict observation on the cordon system necessary. In order to give the first line more security, and to enable its component parts to afford each other mutual support, the line of double sentries, and the line of piquets which supply them, may be replaced by one line of posts of four men each, furnished direct from the supports. Each of these posts would be commanded by a corporal or old soldier, who would form one of the four men. The remaining three men of the party would furnish the relief for a single sentry, who would be posted in the best look-out position, at from 10 to 50 yards to the front. The men not on sentry would remain with the commander, sitting or lying down, well hidden from view, keeping constant watch upon their sentry or look-out man. One of their number may be occasionally sent to patrol to the next post, if it is not too far off, but the regular duties of patrolling would not be undertaken by the posts of four men but by the supports. The sentry should be relieved every hour, the post every four hours, and during their tour of duty all should preserve strict silence and neither eat nor smoke.

Each support might furnish from four to six of such posts, the farthest of which in a country such as described should not be more than 300 yards from the support.

The disposition would not of course be so solid or deep as the ordinary formation, for one of the advanced lines would be dispensed with altogether; on the other hand, the ground under consideration would doubtless present special capabilities for defence of some compensating value.

It is evident that by this method close ground might be better watched by a less number of men. Thus in the example given in Fig. 1, Plate VIII., where 2,400 yards of front is supposed to be guarded by 480 infantry, half in reserve, with a line of double sentries at intervals of 300 yards, the ground could be observed by 400 men, half in reserve, with

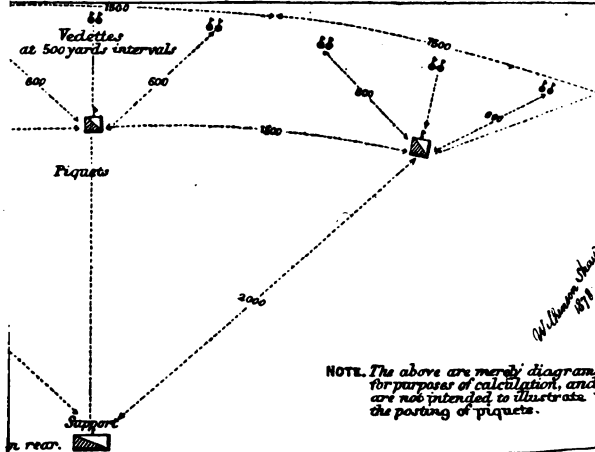
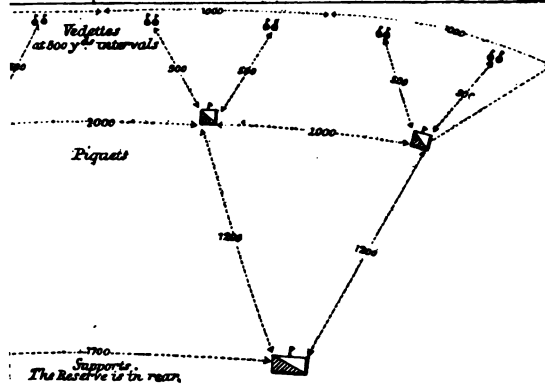
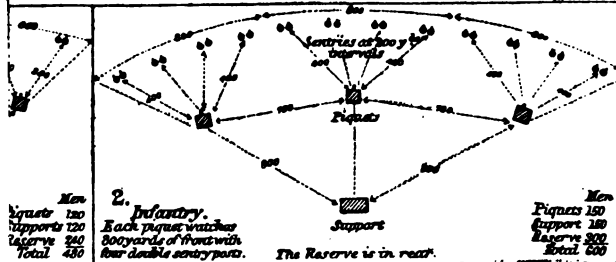
a line of 24 posts of four men, furnished from four supports, having intervals of 100 yards only between the small posts. It will also be observed by Fig. 2, Plate VIII., that the same extent of front, under the ordinary rule, with intervals of 200 yards between posts of double sentries, would require a strength of 600 men.

The method might further be followed upon comparatively open ground, when the force of available infantry is not such as to render resistance as well as observation possible, and no cavalry is available. Thus, in the example already taken, 2,400 yards of front, which requires at the lowest calculation, that shown in Fig. 1, Plate VIII., to be guarded by 240 men, when divided into three lines, exclusive of reserve, could be on occasion observed in the manner suggested, by 100 men in two lines, furnishing twelve posts with two supports. The reserve would consist if possible of 200 men; thus 300 infantry could attempt observation of the ground, which it would take, at a very moderate calculation, nearly 500 men to watch and guard with the ordinary formations.

As a rule, posts of four men should not be more than 500 yards in open ground from their supports, but sometimes the flanking posts must exceed that distance; in such cases a connecting post would be necessary. The reserve should be placed in rear of the supports as usual. It would consist of from one-half to two-thirds of the force employed, the proportion being increased in consequence of the weakness of the front lines.

It would not of course be necessary for a commander, making use of the foregoing disposition, to adopt it for his whole line. On the contrary, he would often find it better to combine this method with the ordinary one; for instance, if one portion of the line of resistance was necessarily coincident with the line of observation, posts of four men would probably here be more suitable than the usual formation, which might yet with advantage be followed at other parts of the line. All rules laid down for the posting of outposts should be elastic, and subject to modification or alteration, in accordance with the special conditions presented for consideration. With this view, the above

**Outposts.**  
*every piquet. Distances in yards. Scale 2 inches to the Mile.*



NOTE. The above are merely diagrams for purposes of calculation, and are not intended to illustrate the posting of piquets.





sketch of a possible formation of the front line, may not be uninteresting to the student or to the commander.\*

#### THE OUTPOST LINE AT NIGHT.

Changes in the position of a portion of the outpost line will usually become necessary at night. They should be carefully arranged before dark, and put into execution just as the light is failing so as not to be observed by the enemy. Bridges, main routes, and obligatory points of passage should be occupied by the piquets, the supports being pushed close up to them. Advanced sentries being of little use during the dark hours, except on the roads, footpaths, and other avenues of approach, the number of double sentries in a close country can usually be reduced at night. If extra men are thus set free they should be employed on patrol duty, which must be more frequent in front of the line as the double sentries are fewer in number. On the other hand, in a comparatively open country, the number of approaches to be watched may even exceed the number of day posts. Here there would be no saving of sentries, but the patrolling would probably not require to be so incessant. In order to make these dispositions it may become necessary to contract the outpost line, but in such case the original posts would be resumed on the approach of daybreak. This should, however, be effected with as much care and preliminary examination of the ground as at the previous occupation.

With a mixed force we have shown that cavalry would usually be withdrawn from the front at night. This would be especially the case in a difficult or enclosed country. But should it be necessary to retain them during the night on account of the absence of infantry to replace them, they must undergo a thorough change of position. The posts with wide extended view suitable for the cavalry vedette by day are valueless at night, and stationary mounted men can only watch roads or defiles after dark.

\* The student desirous of inquiring more into the advantages and disadvantages of this system is referred to Rustow's '*La petite guerre*' (French trans. from the German). The posts of four men are there called '*postes à la cosaque*.' They are recognised also in the French Infantry Regulations, '*Instruction pratique sur le service de l'infanterie*.'

Cavalry piquets which have been in open ground during the day must now be placed on the roads, where they can have free movement from front to rear, double vedettes being immediately in front of the piquets advanced a short distance up each approach. Principal reliance must be placed upon the watchfulness of the patrols, which are kept constantly in motion during the night. The enemy can only himself move in any force upon the roads; and if these are vigilantly watched and examined for some distance to the front during the dark hours, a certain amount of security against surprise is thereby obtained.

In considering the arrangements for night service of the outposts, it will be seen, that it must often be necessary to fall back at dusk from a position, which presents some advantages during the day. An officer in command is naturally loth to give up, without a struggle, ground favourable to himself, which might thus be occupied during the night by the enemy in force. In order that he may be forewarned with absolute certainty of any such move on the part of the enemy, with a possible view of meeting it, a number of *patrolling or flying posts*, of four men each, might be pushed forward at dusk, traversing all roads or possible approaches by which the enemy could advance in force, his movements at night being necessarily confined to such routes. We have said that the piquets would hold the obligatory points of approach, on the outpost line being contracted or drawn back, and that the supports would be stationed close up to them in rear. If a sufficient number of flying posts, of four men, are employed in the manner suggested, the piquets which supply them will be so much weakened, that the supports must close upon them altogether, in order to hold strongly the obligatory points of passage. The patrolling posts being sent along every possible path or line of advance in the direction of the enemy, should give the earliest notice of any attempt at advance on his part. The distance to which they should proceed would much depend upon circumstances, but it should be so regulated as to enable notice of the enemy's advance to be sent back, either by messenger or by preconcerted signal, in time for the supports in rear.

to prepare to receive him, or to advance to meet him on his line of approach, should such a course be determined upon. In the latter case a portion of the reserve would move up to take the place of the support at its former post.

With a view to the service being performed to the best advantage, the leaders of the flying posts should be chosen with care, and they should have instructions to act quite independently of each other, moving or watching with their party as may seem necessary, but always in observation or reconnaissance of the route, which is placed as it were in their special charge. Where the distance, to which it may appear desirable to push forward the posts, exceeds 1,000 yards, the duty would be better discharged by cavalry than by infantry; and even under that distance it would be a wise arrangement to have a couple of mounted men, to follow a short distance in rear of each flying post of infantry, for the purpose of taking back intelligence quickly to the supports.

Should the posts of four men, on arriving at the named limit of distance from their supports, find suitable positions for observation, either upon or immediately to one side of the route, they will establish themselves therein, and place a sentry in front on the look-out, relieving him every hour or half hour. At the end of the fourth hour the post may be relieved from the piquet or support, the relief in such case advancing along the route which is under charge of the party, until it finds it.\* It will thus be observed, that the flying post must never leave the route which it has to watch, or its immediate vicinity, although it may change its position thereon as often as desirable. If relieved it will return to the piquet or support. The posts thus established in advance should not unnecessarily alarm the troops in rear; but if an undoubted advance of the enemy takes place they should retire firing, so as not only to give notice to the rear, but also to offer all possible preliminary resistance to the enemy's leading troops. The latter, not knowing in the

\* Should the circumstances be such, as must frequently be the case, that the support and advanced posts have equally to remain on the alert, there would be no advantage in relieving the posts of four men at all during the night.

darkness what force may be opposed to them, will probably delay their advance to feel the way more cautiously, and thus afford time to their opponents.

If the flying posts, detached upon such duty at night, keep perfect silence, and show no lights whatever (with this view the men not being permitted to smoke), they will probably see before they are seen, and run but slight danger of being cut off.

The communication between the flying posts and the rear will be kept up during the night by patrols. Much fewer men will, however, require to be employed on such duty, than under ordinary conditions, where the entire responsibility of watching the front is accepted by the patrols.

At daybreak the flying posts will make a reconnaissance before rejoining their piquets and report what is to be seen of the enemy.\*

#### DUTIES OF THE COMMANDER OF AN INFANTRY PIQUET.

An officer placed in command of a piquet should provide himself with a field glass, a compass, a map, a watch, a notebook, a pencil, and some sketching materials of simple character.

He receives detailed instructions, from the commander of the outposts or of the support according to circumstances, which he must note down. These orders indicate the hour at which he is to mount piquet, the ground he is to watch, approximate position of the piquet with those also of the

\* The method here detailed of securing immunity from surprise during the night, is by no means new. Marshal Bugeaud recommended and practised a similar system in the earlier part of this century, an account of which will be found in his '*Aperçus sur quelques détails de la guerre*,' 1831. It may also be interesting to the reader to know that we have lately recognised in a portion of our own army the utility of some such method. The regulations for outpost duty issued in India in 1872 from the Adjutant General's press at Simla, contain instructions for the sending out of detached posts at night in a manner similar to that recommended by Marshal Bugeaud.

neighbouring piquets and the supports, the amount of resistance the piquet is to make if attacked in superior force, and in the latter case the general dispositions the officer is to make, together with his line of retreat.

It is further shown where he is to send his reports, and whence he is to be supplied with any camp requisites or provisions. Lastly, where the piquet is to be posted at night, with the night positions of neighbouring piquets and the supports.

Before moving off, the officer makes an inspection and rough nominal list of his men, examining their arms, ammunition, and rations. He should see that each non-commissioned officer has a pencil and paper, or note-book of some kind, with him.

On passing beyond the line of supports the piquet should advance with great caution, moving with scouts out in front, and flankers according as the ground permits. The commander should note any position which may be useful for making a stand in the retreat, and impress upon his mind the general formation of the ground he passes over. Arriving a little in rear of his intended line of observation, the piquet is halted, and the officer proceeds with an extended patrol to work up to the ground. He is followed by a party under a non-commissioned officer, to furnish the first relief of sentries, which, as it advances, opens out by files, so as to cover approximately in extended order the whole of the ground allotted to the piquet to guard. On arriving at the line of observation, without having seen anything of the enemy, the officer halts, letting the patrollers go on to the front to examine any suspicious ground within short rifle range. As the extended party of sentries comes up to him, the officer posts them by files, tentatively at first, wherever there appears the best look-out. Should a good place for distant observation be found on an eminence, the top of a house, or of a high tree, a couple of men are immediately established there. They should have a glass if one is available.

The officer next communicates with the piquet on one

flank, and then with the piquet on the other flank, passing along his line of sentries in so doing and correcting their positions, if possible reducing the number of posts. He should place himself exactly in the position of a sentry before deciding whether or not the man is posted to the best advantage, and he should see that the sentries understand, and are able to answer, three questions.

1. *What is known of the enemy?* Early information on this point should invariably be communicated to all the men on piquet.

2. *Where are their own piquets—detached or advanced parties if any—and the other sentries?*

3. *Where do the roads within sight lead to?*

Von Arnim gives these three questions, as those most practically useful on service, out of a mass of other matter which is often laid down as necessary for sentries to know. Should they also be acquainted with the names of their own immediate commanders, it would no doubt be an advantage.

Finally, two or three simple signals, such as are laid down in the Field Exercise, should be impressed upon the sentry, as the best means of communicating what he sees or observes to the piquet, or to flanking posts,\* and the general direction to which his attention should be devoted had better be practically marked out for him on the ground by a row of stones or a few pegs.

The above arrangements being completed, the commander returns to his piquet, piles arms, and posts a piquet sentry, sending a report of his preliminary dispositions to the commander of the outposts.

Should detached posts have been furnished from the piquet, the commander will now visit them, having first directed his second in command with reference to any entrenchment or temporary strengthening of the piquet post which may appear desirable, and also as to the patrols which are to be sent out. On visiting a detached post the commander will assure himself that it is in the best possible

\* These signals are referred to more in detail in Chapter VI. p. 125.

position, and that the connection with the main line is well kept up. If it be a post of importance, such as to guard a flank, he will see that proper reconnoitring patrols are sent out and that, if necessary, the post is strengthened so as to prevent a sudden rush of the enemy upon the sentries. Bridges, however, are not to be broken down without distinct orders, nor should main roads be blocked up with material that cannot be cleared away for a forward movement if required. At the post itself lateral communication should be attended to, gaps if necessary being made through banks or hedges, and the line of retreat should be quite clear.

All reports and information obtained by the commander of the piquet, are at once to be forwarded to the officer commanding the outposts, and mutual information of the enemy's movements should be given to one another by the piquets and supports.

The commander of a piquet should consider what he would do if attacked, and form his plans, communicating them to his subordinate officers. Much will depend upon the conditions of each case and upon the special instructions which he has received ; but as a general rule, if the enemy advances vigorously upon the outpost line during the day, the commander of an infantry piquet ought at once to reinforce his line of sentries so as to cover his front with an extended firing line, which should retire slowly upon the general line of resistance or supports, taking every advantage of the ground already studied on marching out, in order to obstruct the enemy. On nearing the supports the commander of a piquet should direct his retreat upon one flank of his own support, so as not to mask its fire, and then co-operate with it in defence of the general line. Whilst retiring the piquet must look to the piquets on its flanks so as to move in correspondence with them.

In the more exceptional cases where the first stand is to be made at the line of piquets, the commander would have probably received instructions to strengthen his post by every means at his disposal, and he would continue to hold his ground on the enemy advancing, his sentries falling back



upon either flank of the piquet. The support would now be brought up to the assistance of the piquet, the whole retiring in one line as soon as the position becomes untenable or the flanks commence to be turned.

An officer on piquet should, if possible, make a rough sketch of his post and the adjoining ground. This is especially desirable when the post is to be occupied for some time. Any information obtainable should be written down.

#### DUTIES OF THE COMMANDER OF A CAVALRY PIQUET.

The officer placed in command receives and notes his instructions in a similar manner to that detailed in the case of an infantry piquet. In addition to inspecting the men he examines carefully the horses of his piquet and sees that the forage they are to carry is sufficient. He also ascertains whence he is to receive such further supply of forage as may be necessary. He then marches off his party, covered by scouts and flankers, to about the centre of the ground he is ordered to take up, and, halting a little in rear of the position, tells off his piquet. About two-thirds will probably be required for vedette duties and about one-third for patrols. He selects the sharpest-sighted men for vedettes, and the most intelligent as well as the best-mounted men for patrols. The vedettes are divided into three reliefs. The first relief of vedettes, and a small patrol, with one or two orderlies, move out of the ranks, and accompany the officer. The piquet remains mounted under the second in command. The officer now endeavours to get on some height from which he can view the ground, and if any suspicious places appear in the immediate front of the position he sends out the patrol to examine them. Should the ground appear clear, the patrol need not go out till the vedettes are posted, when it proceeds to establish communication with the neighbouring piquets. The central vedette post is first placed, and then the flank vedettes, as quickly as possible, defects in their positions being subsequently corrected. Before returning to his piquet, the officer gives the most precise in-

structions and every information to the vedettes, questioning them to see what they know, as in the case of infantry sentries. The vedettes should also be made to show that they understand the signals they are to make use of.\*

On rejoining his piquet the commander selects a proper station for it, and allows the men to dismount, unless the enemy is close at hand, when it may be advisable that half the piquet should remain mounted. A piquet sentry is posted, and also, should it be necessary, a mounted sentry to connect the latter with the vedette posts.

The first patrol sent out having returned, the commander of the piquet sends a report to the rear, showing how many vedettes have been posted, where they stand, the position of the piquet, and any information brought in by the patrol. If possible, a rough sketch should accompany the report.

The officer next orders out his reconnoitring patrols, consisting of about three men each. They should be instructed to examine every path or road leading towards the enemy, and to ascertain whether they and the adjoining ground are passable or whether there are obstructions anywhere. Also the paths leading to the flanks and to the supports must be further examined. Any inhabited place in the immediate vicinity must be specially visited.

Having dismissed the patrols the officer rides again round his vedettes, accompanied by an orderly, and carefully examines the ground about each of the posts, pointing out to the men by what paths they must retire if they should have to fall back.

He should not omit to consider what he would do if the piquet were suddenly attacked during the day. As with an infantry piquet, much would depend upon his instructions; but, in general, a cavalry piquet would not fight, otherwise than to prevent the passage of small parties or reconnoiters of the enemy through the outpost line. If the enemy is weak and the ground favourable, the piquet may advance to

\* The question of these signals is gone into in detail in Chapter VII page 150.

assist the vedettes, and make short rapid attacks upon the enemy's patrols.

Should the enemy appear in force beyond that of a small patrol, information is at once despatched to the support, and the piquet and vedettes fall slowly back. If, however, the enemy appears to be rapidly advancing upon the support, the piquet, should the ground admit of action, must not hesitate to attack and even to sacrifice itself, to prevent the support being surprised. In retiring, the piquet must take care not to interfere with the offensive forward movement of the support, but should keep off to a flank. Thus if the support is attacked in front, the piquet may assist it by coming up on the enemy's flank. If the enemy is repulsed, the piquet commander sends out pursuing patrols to report where he halts. These must be careful not to fall into an ambush and must go no farther than a certain distance indicated to them. The piquet resumes its former position, but its ground must be changed shortly afterwards, the commander of the outposts being informed accordingly.

In a night attack a cavalry officer must feel himself rather helpless, as he can do little but retire. He should first endeavour by patrols to find out the strength of the enemy, so that the main body should not be unnecessarily caused to move. Sometimes the ground occupied by a piquet on a main thoroughfare could be temporarily barricaded to prevent a night surprise. Care must be taken that passage is left for the retiring vedettes or patrols and that the piquet has a secure retreat. A few dismounted men might hold such a post for some time so as to check the enemy's advance.

#### DISTANCE OF THE OUTPOSTS FROM THE MAIN ARMY.

It will have been remarked, that we have given in the foregoing pages no approximate distance for the reserve to be advanced in front of the main body. We stated, however, that the commander, knowing the object to be effected by the outposts, would determine therefrom, in the first instance,

how far the line of resistance or supports should be advanced, and that all other distances, whether to the front or to the rear, should be relative to this line; we have also seen that the outposts have as their primary function the duty of delaying the advance of an enemy for such time as will enable the army in rear to form up to receive him.

Once the enemy has come within artillery range of the position, and is able to bring his guns into action, the attack may be said to have commenced. It is evident, therefore, that the necessary obstruction to his advance must take place outside the zone of effective artillery fire, whatever this may be.

General Hamley suggests a mile and a quarter or 2,200 yards from the position, to be a fair distance for purposes of calculation. Resistance to the enemy's advance must therefore be made outside that line, sufficiently prolonged to delay him the full time necessary for preparation.

Hence the situation of the reserve with reference to the main body depends on the distance of the line of resistance from the position, which itself must be determined in accordance with the varying conditions of each case, it being always borne in mind that the outposts must under no circumstances be advanced so far to the front, that they cannot be securely retired without undue loss.

The possibility of delaying action being assisted by the nature of the ground, would of course be taken into account by the outpost commander. Sometimes he would direct that the piquets fall back at once on the supports and there make their stand, sometimes that the whole should fall back on the reserve.

Sometimes again, but more rarely, the supports would advance in whole or part to the piquets, and the retarding action would be effected by a succession of short stands at favourable points on the line of retreat.

These would all be elements of calculation, so that, knowing the extent to which he is to resist and for what period of time the enemy must be held back, the commander can clearly decide the means by which his instructions are to be carried out.

**EXERCISE IV.****OUTPOSTS.**

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**IDEA.\***

A force (Red) having encamped on Redburn and Ray Hills, protects itself on the south against an expected advance of the enemy (Blue) from the direction of Carsham.

The outpost line extends from Cleveley Park, to Ripley Bridge upon the East River. Red's force comprises the three arms but is very weak in cavalry, and for this and other reasons the general outpost line is composed of infantry and artillery only. The right of the line being, however, not so well protected by the ground as the left, some additional security is provided on this flank by an advanced piquet of cavalry for patrolling purposes.†

**DISPOSITION AND POSTING OF THE OUTPOSTS.**

The troops detailed for the duty consist of a battalion of infantry of 800 men, and a battery of field artillery, with a small party of cavalry for the right flank, the whole under the command of Lieut.-Colonel X. The commander is instructed to select the Tarbor River as his line of resistance.

Lieut.-Colonel X., on examining the map, perceives that the line he is to occupy extends from west to east about 3,000 yards. The River Tarbor is crossed by four bridges on his front, while the East Tarbor is crossed by three more on his left. The Tarbor runs between two parallel lines of hills, of which that on the near bank is from 80 to 100 feet higher than the other.

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.

† This party being stationed on the Great Marlow Road, outside the limits of the two-inch map, cannot be shown in the illustrations, and is therefore only incidentally alluded to in the text.

The village of Glenfield is situated centrally in rear of the position, and would seem to point out the best situation for the reserve.

Nos. 5, 6, 7, and 8 companies of the battalion are told off for the reserve, to be retained under the command of Lieut.-Colonel X.

Nos. 1 and 2 companies are to constitute the right support, to furnish the piquets in their front. No. 1 company is under Captain A. with Lieutenant B. No. 2 company is under Captain C. with Lieutenants D. and E. Two guns of the battery under Lieutenant O. are attached to the right support, and also the small cavalry party already mentioned for duty on the extreme flank. The right support is under the command of Major P. of the infantry battalion.

The centre support is composed of half of No. 3 company under Captain F. with Lieutenant G., and is to send out a piquet to its front.

The left support is composed of the remaining half of No. 3 company under Lieutenant H., and No. 4 company under Captain J. with Lieutenants K. and M. This support is to furnish the piquets for the left of the line. Four guns of the battery, under Captain L., are attached to the left support.

The centre and left supports are placed under the command of Major Q. of the infantry battalion.

Major R., the commander of the battery, is to remain with Lieut.-Colonel X., whose position will be with the reserve.

A line of observation in advance of the line of resistance having been selected for the front of the outpost position, the general arrangements are explained and the ground pointed out on the map, by the commander of the outposts, to the commanders of the supports and of the artillery.

The supports then march off, preceded by advanced-guards, to their respective posts.

Major P., having reconnoitred his part of the position, places his support at the cross roads above Winsley Bridge, close to the entrance to Cleveley Park. He directs Captain A. to send a piquet of forty men from No. 1 company, under an officer, to Totley Bridge, and Captain C. to detail a piquet of the same strength from No. 2 company for Winsley Bridge. A detached party of 12 men, under a non-commissioned officer, is also detailed from No. 2 company, to take post on the cross roads on the Great Marlow road west of Cleveley Park.

The infantry piquets being numbered from the right, without taking into account the cavalry piquet on the extreme flank,

No. 1 piquet marches on to Totley Bridge under Lieutenant B., and No. 2 piquet to Winsley Bridge under Lieutenant D.

When the piquets have marched off, the rest of the support is placed under the immediate command of the senior company officer, Captain C.

No. 1 piquet is posted at Totley Bridge, and is covered by three double sentry posts; one in front of Magpie Wood near the Pawley Road, another near the river to observe the right flank, and a third between these two posts. The sentries in front of Magpie Wood require to be linked to the piquet by two connecting sentries. A sentry is also posted at the piquet to take charge of the arms, and to look out for signals from the advanced sentries.

No. 2 piquet is posted about 250 yards in front of Winsley Bridge, on the road leading to Drayton Hill. It is covered by two double sentry posts, one in front of the east end of Magpie Wood, and another at the head of the valley formed by Drayton Bottom. A sentry is also posted at the piquet.

The guns attached to the right support are placed by Lieutenant O. in a field between Cleveley Park and Rainham Wood, where they command Churton Hill and the approaches from Wolverton and Carsham, at a range of about 2,500 yards.

Major Q. having gone on with his advanced-guard to reconnoitre from Rainham Hill, and to examine the ground which he has to occupy, places his left support at the four cross roads above Stanton Bridge. His centre support he posts at the entrance to Rainham Wood, where the main road from Glenfield is crossed by the road which runs from east to west of the plateau of Rainham Hill.

The centre support is under the command of Captain F., who details a section of No. 3 company, 25 men under Lieutenant G., to furnish a piquet for Yatton Hill.

This piquet, No. 3, marches off and is posted on the main road about 300 yards in advance of the bridge, with two double sentries to its right and left front overlooking Drayton Bottom, and a single sentry at the piquet.

The left support, which is under the command of Captain J., furnishes No. 4 and No. 5 piquets.

No. 4 piquet, consisting of 25 men of No. 3 company under Lieutenant H., is sent to cover Stanton Bridge. It is posted about 100 yards in advance of the bridge, at the junction of the Minton Road with the main road, and has two double sentry posts and a sentry at the piquet. One of the double sentry posts faces towards Minton; the other overlooks the low ground

about South End Farm from the edge of Yatton Hill, and is obliged to be linked to the piquet by a connecting sentry on account of an intervening plantation.

The section of No 3 company remaining with the left support, is under the immediate charge of the colour-sergeant, no officer of the company being available to command it.

No. 5 piquet is posted near the windmill, and consists of half of No. 4 company, 50 men, under Lieutenant K. This piquet is of great importance, both on account of its position on the flank, and because the ground to be guarded presents difficulties in the way of effectual observation without undue extension, such as often perplex the outpost commander.

Lieutenant K., on arriving near the windmill, proceeds to the front with an extended patrol and makes his preliminary reconnaissance. From the summit he obtains an extensive view to the east and south. Sending the patrol to search Ripley Woods, he selects three clear-sighted men from the first relief of sentries, which has followed him to the summit under charge of a sergeant, and establishes them at the windmill to keep a look-out from the upper gallery. He then places a double sentry on the brow of the hill looking east, and sends back to the piquet for three parties, each of six men with a corporal, to be sent up to him. On their arrival they are despatched to form detached posts, one at Hurst Bridge and another at Ripley Bridge, to furnish double sentries on the farther side of the bridges; the third to a group of cottages not far from Rushton Bridge, to furnish a double sentry on the road about 200 yards on the near side of the bridge.

A double sentry is also posted at the south-east corner of the western portion of Ripley Woods. This post, and the detached post near Rushton Bridge, are linked to the piquet, which has moved up for its final position close to the windmill on the southern slope of the hill, by two connecting sentries, one on the road near the gap between the woods, and another at the thinnest part of the eastern wood.

On revising these arrangements, it is found that the double sentry on the east brow of Windmill Hill can be replaced by a single sentry, to connect the detached parties at the bridges with the piquet, the look-out from the windmill gallery being sufficient for all purposes of distant observation.

A sentry is also placed at the piquet to take charge of the arms, and to look out for any signals made or sent back from the double or detached posts of the line of observation.



The guns attached to the left support are posted by Captain L. on Rainham Hill a little to the right rear of the infantry, whence they can bring under fire the most important points of approach to the left front of the position, viz. Minton Bridge at a range of one mile, and the main road from Hambden, where it passes through Holm Woods, at a range of 2,500 yards.

Captain L., however, perceives that from this position his guns cannot also command Rushton Bridge, which is the weak point of the left flank. He therefore rides forward and selects a second position, in a field on a spur of the hill above Stanton Farm, from which Rushton Bridge can be commanded at a range of 1,000 yards. Having caused an easy passage for guns to be made from the road, through the fences, to this field, in case it should be necessary to occupy it, a non-commissioned officer of the battery is stationed at the spot; his orders are to warn the commander of the guns, when occasion requires artillery fire to be brought to bear upon Rushton Bridge. This non-commissioned officer is to be frequently relieved.

As soon as intelligence is transmitted to the rear of the lines of sentries, piquets, and supports being established, they are inspected by the commander of the outposts Lieut.-Colonel X., who is accompanied by Major R., the officer commanding the artillery, and also by Majors P. and Q., in command of the different portions of the line.

The detailed disposition is found to be as follows :

*Right support under Major P.*

	Officers N.C.O. Men		
Detached party, (from No. 2 company), on Great Marlow Road . . . . .	0	1	12
No. 1 piquet, (from No. 1 company), at Totley Bridge, under Lieutenant B. :	1	4	40
2 sergeants and 2 corporals . . . . . = 4			
3 double sentries in reliefs . . . . . = 18			
3 single sentries in reliefs . . . . . = 9			
Patrols, &c. . . . . = 13			
No. 2 piquet, (from No. 2 company), at Winsley Bridge, under Lieutenant D. :	1	5	40
3 sergeants and 2 corporals . . . . . = 5			
2 double sentries . . . . . = 12			
1 single sentry . . . . . = 3			
Patrols, &c. . . . . = 25			
Carried over . . . . .	2	10	92

	Officers N.C.O. Men		
Brought forward . . . .	2	10	92
Remaining with support, (portions of Nos. 1 and 2 companies), under Captain C., Cap- tain A., and Lieutenant E. . . .	3	10	108
Total . . . .	5	20	200

Add two guns under Lieutenant O. stationed near Cleveley Park. The cavalry advanced piquet on the right flank is also under Major P.'s command, and sends reports to that officer.

*Centre and Left supports under Major Q.*

No. 3 piquet, (from No. 3 company), at Yatton Hill, under Lieutenant G.:				
1 sergeant and 1 corporal . . . .	. = 2	1	2	25
2 double sentries . . . .	. = 12			
1 single sentry . . . .	. = 3			
Patrols, &c. . . .	. = 10			
Remaining with centre support, (part of No. 3 company), under Captain F. . . .				
		1	3	25
No. 4 piquet, (from No. 3 company), at Stanton Bridge, under Lieutenant H.:				
2 sergeants and 1 corporal . . . .	. = 3	1	3	25
2 double sentries . . . .	. = 12			
2 single sentries . . . .	. = 6			
Patrols, &c. . . .	. = 7			
No. 5 piquet, (from No. 4 company), at Windmill Hill, under Lieutenant K.:				
4 sergeants and 3 corporals . . . .	. = 7	1	7	50
Look-out station, single sentry . . . .	. = 3			
1 double sentry . . . .	. = 6			
4 single sentries . . . .	. = 12			
Detached post near Rushton Bridge . . . .	. = 6			
Detached post at Hurst Bridge . . . .	. = 6			
Detached post at Ripley Bridge . . . .	. = 6			
Patrols, &c. . . .	. = 11			
Remaining with left support, (portions of Nos. 3 and 4 companies), under Captain J. and Lieutenant M. . . .				
		2	5	75
Total . . . .		6	20	200

Add four guns under Captain L. stationed on Rainham Hill.

When the right of the line is being inspected, Major P. explains to the commander of the outposts, that Nos. 1 and 2 piquets were allotted 40 men each as the result of a preliminary calculation, necessarily made before the sentries were posted, and that No. 2 piquet, having only found it requisite to post two double sentries, has a larger number of men left for patrolling than would have been detailed, under ordinary circumstances, for that duty alone. It has, however, been thought better, instead of withdrawing them, to direct the commander of the piquet to undertake the whole of the distant patrolling necessary upon the right front of the line.

Lieut.-Colonel X. approves of this being done, and also suggests that Lieutenant E., the third officer remaining with the right support, might be sent to join No. 2 piquet, to conduct the more important part of the patrolling duty. This is accordingly carried out, Lieutenant E. proceeding to report himself for duty to Lieutenant D., the officer in charge of No. 2 piquet.

The necessary patrolling on the immediate right flank of the outpost line, is to be carried out by the detached party on the Great Marlow Road, and by No. 1 piquet. The cavalry piquet on the extreme right is conducting the advanced patrolling in the same quarter.

On visiting the piquets at Yatton Hill and Stanton Bridge, Major Q. points out to the commander of the outposts, that the reconnoitring patrols already sent out, include Drayton Bottom as far as the junction of the two streams, Drayton Hill, Heath Hill, and the town of Minton, in the circuit of their respective routes.

Passing on to the left of the line, the position of Rushton Bridge and the manner in which the officer of No. 5 piquet has placed it effectively under observation, without an unnecessary extension of his detached posts, are shown to the commander.

The country being open on the left bank of the river, immediately to the east of Windmill Hill, and clearly seen for some distance from the look-out station, it has not been considered necessary to patrol it by day in that quarter, but the officer of No. 5 piquet reports that he has sent a patrol over Ripley Bridge to return by Rushton Bridge, and another to search the far portion of Ripley Wood which lies on the north bank of the Tarbor near Minton.

The commander approves of these arrangements, as also of those made by the officers of artillery on either flank. On the

whole, he considers the positions of the double sentry posts along the line well chosen, but directs the attention of the commanders of supports to some instances, where provision has not been made for an easy communication between the sentries and the piquet to which they belong. Orders are immediately given to piquet officers to cause passages through fences to be made wherever required, in some cases lateral communications between two adjoining sentry posts being also desirable.

Lieut.-Colonel X. now proceeds, in consultation with the commanders of the supports and of the artillery, to arrange the necessary dispositions for the outpost line at night.

Rushton Bridge is to be prepared for destruction during the day, by a special party sent out for that purpose, and to be blown up at nightfall by the detached party posted in its vicinity.

The four bridges on the Tarbor, with Hurst and Ripley Bridges on the East Tarbor, are to be strongly held at night, being obligatory points of passage for an enemy advancing from the south or south-east, as the rivers are swift, deep, and unfordable at any point along the whole line. The piquets on the south bank of the Tarbor will accordingly be drawn back, at nightfall, to the bridges.

The detached party, from No. 2 company, at the cross roads on the right flank, will be relieved at nightfall by a piquet of 20 men of the same company, under Lieutenant E. who will no longer be required with No. 2 piquet. In order to avoid the confusion that might be caused by renumbering the piquets at night, this will be called the right flank piquet; it will in fact replace the cavalry advanced piquet which must be withdrawn.

Patrolling posts, of four men each under a non-commissioned officer, will be sent out from the right flank piquet and from No. 1 piquet, to reconnoitre along the four roads leading west for a considerable distance. These patrols or flying posts will be each accompanied by a couple of mounted men, for the purpose of conveying back intelligence with rapidity.

No. 1 piquet will remain at Totley Bridge on its near side, the bridge being just before nightfall temporarily barricaded, by upsetting thereon some vehicles found at the adjoining public-house, with a few branches of trees cut in Cleveley Copse added as an abattis.

The remainder of No. 1 company under Captain A. will be in support on the river road, at the south corner of Cleveley Copse.

No. 2 piquet will be posted similarly on the near side of

Winsley Bridge, which will be also temporarily barricaded at nightfall.

The remainder of No. 2 company, 40 men, will be placed, one-half under the colour-sergeant in immediate support of Lieutenant E.'s piquet, and the other half under Captain C. in support of No. 2 piquet, at the cross roads close to the day post of the right support.

The lines of retreat of all three piquets will be directed upon the position taken up by Captain C.; thence upon Glenfield.

No. 3 piquet will hold Yatton Bridge in an analogous manner, barricading it with abattis. The centre support under Captain F. will move down towards the piquet and be stationed on the main road, in the wood, at about 200 yards from the bridge.

The line of retreat of this piquet and support will be directed upon the day post of the support; thence upon Glenfield.

No. 4 piquet will similarly guard Stanton Bridge, having the remaining section of No. 3 company, under the colour-sergeant, in immediate support on the road west of Stanton Farm.

In the case of No. 5 piquet, the look-out station and double sentries will be drawn in at nightfall, as also the detached party near Rushton Bridge, when it has performed its duty of demolition. The detached posts at Hurst and Ripley Bridges will be reinforced to a strength of 25 men each, Lieutenant K. assuming the command at Ripley Bridge, and detailing Lieutenant M., who has been sent to join the piquet for night duty, to take charge of Hurst Bridge.

The remainder of No. 4 company under Captain J. will move forward from the day post of the left support, and take position in immediate support of the parties at the bridges; 20 men under the colour-sergeant being placed on the road leading down from the hill to Hurst Bridge, and 30 men under Captain J. on the road leading down to Ripley Bridge.

The lines of retreat of the piquets at Stanton, Ripley, and Hurst Bridges, and their supports, will be directed upon the day post of the left support, thence upon Glenfield, by the road leading by the Royal Arms Public-house.

Constant patrolling is to be kept up along the lower road, which, running along the west bank of the East Tarbor from Hurst Bridge to Ripley Bridge, and thence to Stanton Bridge across the fork made by the two rivers, connects all the night posts together by a main lateral communication as far as the right flank piquet on the Great Marlow Road.

Patrols are also to be constantly sent along the south bank,

from each of the bridges on the Tarbor to the next one, and from Hurst Bridge to Ripley Bridge along the left bank of the East Tarbor.

The artillery are to be retained in their day positions, the line of fire and range to the main approach over Churton Hill having been carefully fixed, when they first took up position, for the guns on the right, and similar observations made at the same time, as regards the road over Minton Bridge and the main approach through Holm Woods, for the guns on the left. Thus, should occasion require it, these points can also be brought under artillery fire during the night.

The reserve will retain its post at the four cross roads south of Glenfield, during the night, being favourably situated for any required forward movement along the roads leading to the front, or for covering the retreat should the enemy break through the line at any point.

The dispositions of the outposts by day are shown in Fig. 1, and by night in Fig. 2, of Plate IX.

#### OBSERVATIONS.

In the posting of the outpost line, thus described, we may note that certain general principles have been observed and followed.

*First.*—A tactical feature is selected for the line of resistance, which materially strengthens its power of opposition.

*Second.*—This line is chosen so as to oppose the enemy's advance, to the first favourable position from which he could open artillery fire on the camp at effective range.

*Third.*—The principle of keeping the various commands as far as possible intact has been observed. Thus, the supports with their piquets consist of whole companies under their own officers, as little broken up as may be under the circumstances of each case, and then only into sub-units whenever it can be so arranged. Although this at first sight would seem to give certain piquets a preponderance of men for patrolling, on the other hand it affords the counterbalancing advantage, of larger bodies of men being available for resistance on the main routes by which the enemy may be expected to advance, and an additional moral influence, due to the men being associated at the front with their own officers, non-commissioned officers, and comrades.

*Fourth.*—Instead of one or two companies being broken up

into piquets, supported by other companies, the principle of a piquet and its support being formed by the same corps, has been extended into their being, when possible, formed by the same company. Thus the men on piquet, are not only serving at the front with their comrades, but are also supported by them in rear.

*Fifth.*—The day positions of the piquets and sentries, having been chosen rather with a view to observation than resistance, are in some cases pushed across the river, but not so far to the front but that they could easily fall back on and contest the bridges, aided in such case by the supports.

The position of the reserve, situated centrally with regard to the supports, the roads diverging from Glenfield and the open heath-covered slopes of Rainham Hill being moreover in its front, enables it to move with perfect facility to any threatened part of the line.

The guns are posted on commanding points of the range of hills, from which they can sweep the approaches to the position which must be passed by the enemy's columns in his advance.

*Sixth.*—The principle of guarding only the main approaches to the position during the hours of the night, is here carried out in the dispositions directed to be made for the night service. The enemy cannot advance at night in any strength except by the roads; and if these are effectually and strongly guarded, the main purpose of securing the position from surprise is thereby accomplished.

*Seventh.*—The number of men employed is in due proportion to the extent of the position, taking the nature of the ground into account. We have 800 infantry and 6 guns, on a line which may be taken at 3,000 yards. This is at the rate of 470 infantry and from 3 to 4 guns to the mile.

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## CHAPTER VI.

## RECONNOITRING.

## INFORMATION BY MEANS OF RECONNAISSANCE.

IN a former page we have said that the questions of security and information for an army in the field are inseparably connected. We have since discussed the measures necessary for the safety of an army in the forward march, and at the halt, touching only incidentally on the subject of information. We will now consider in more complete detail the mode of procuring intelligence by means of reconnaissance.

We have before stated that reconnaissance may be either observation of the enemy or of the country.\* The former may be considered under three heads :

1. Reconnaissance in force.
2. Special reconnaissance.
3. Ordinary reconnoitring or patrolling, with parties strong or weak, according to circumstances.

1. In a minor tactical course we may dismiss the question of a *reconnaissance in force* with a few words. It is an openly offensive movement of the three arms ordered by the general in chief, to be put in execution for the purpose of ascertaining the enemy's strength, and if possible his dispositions. With this view it is commonly the precursor to a general action.

\* Reconnaissance of the country is discussed in Vol. I. of this series.

The enemy should be threatened in such a manner as to lead him to suppose that a real attack is intended, and to force him to discover his strength and position. During the advance, reconnoitring officers should be well to the front, seizing upon every point of vantage for a good look-out, noting the details of the enemy's position, marking where his troops and guns are placed, and estimating distances.

The reports and notes (rapid outline landscape sketches sometimes added) of these officers, when put together on return, will afford valuable information to the general commanding. Prisoners are taken by making dashes with cavalry at the enemy's sentries and detached posts in the preliminary advance, and by careful questioning at head quarters further intelligence is obtained from them. Care must be taken that the movement does not lead to a general action for which the force is not prepared. By advancing for the reconnaissance late in the day, even should it be difficult to withdraw, darkness will enable the commander to put a stop to the fight.

2. A *special reconnaissance* is always made with a specific object in view. It may be to reconnoitre a position, or to attack a post in order to force the enemy to discover his intentions. Thus should the post be vigorously defended, or yielded without a struggle, information is in either case obtained by inference, from the importance or little value attached to its possession. A special reconnaissance is usually strong, but not of a strength beyond what is absolutely required for the purpose, as the moment the object in view is attained the party should again fall back.

3. Under the head of *reconnoitring parties or patrols* are included all smaller reconnaissances, from the exploring patrol of a corporal and file of men, to the staff officer's party of cavalry with infantry in support.

In giving our special attention to this class we will first consider infantry patrols, then cavalry patrols, next the screening and reconnoitring duties of advanced cavalry, and

finally the cases in which the several arms would be used in combination for an ordinary reconnaissance.

As regards patrolling generally, we must premise that the instructions issued by authority in our service on the subject of this duty, are hardly sufficient for its full comprehension and practice. The student is therefore forced to draw upon the many excellent text books with which foreign armies are amply provided, for much of his theory. But here a difficulty, that, small though it be, nothing but official authority can remove, presents itself at the outset. In most of the Continental armies the distinctive functions of each sort of patrol are appropriately marked by a specific name. Thus the Germans have designations expressing secrecy or cunning for one patrol, creeping or crawling\* for another, and searching for a third. The French have several names for patrols, besides the rounds or visiting patrols, such as look-out patrols, creeping patrols, expeditionary patrols, (for some special object, as for example to destroy a bridge), and many others.

In our service, putting aside visiting patrols, we have no other authorised names with reference to reconnaissance than reconnoitring patrols, and strong patrols. The term 'exploring patrol' was used in the autumn manoeuvres provisionally, but it has not been adopted, as appears by its omission in the new Field Exercise for Infantry.

There is little doubt that it is a good thing to have distinctive names for special duties, and we ought to have at least one or two more designations for patrols than we possess.

The Continental secret patrol might be called with us a 'stealthy patrol,' and, in consideration of the poverty of our military vocabulary, we might borrow from our sporting vernacular which is varied and expressive, and suggest to our men the special nature of their duty by telling them off to serve with a 'stalking patrol.'

\* Our American cousins in their last war are said to have used the expressive term 'sneaking' for this kind of patrol.

## INFANTRY PATROLS.

An *infantry patrol* should be composed of picked men, instead of the first files on the right of the company being told off for it, and only those who have an aptitude for the duty and who have been trained therein should be selected.

A good patroller should have all his wits about him, and his hearing and vision should be perfect. He should possess a readiness of resource under difficulties, be quick at understanding and carrying out his orders, and have been moreover taught to march by the points of the compass.

The leader of a patrol should in addition be able to read his orders, and to write a clear and correct report.

A patrol would not consist of less than three men, the senior a non-commissioned officer or old soldier in charge of the party. A patrol of this strength would probably be of the secret character. The men should move one behind the other, in single file, as in Fig. 1, Plate X, the commander in the centre about 50 yards from the leader, when on a narrow road or path.

If the road be sufficiently wide or through fields, they may be formed, as in Fig. 2, one man at the head as point of the patrol, the others following at 50 yards' distance. As the ground opens out the commander and the second man may be more or less apart as in Fig. 3. In open country if one flank is dangerous, the second man is more in that direction, as in Fig. 4. If both flanks are dangerous, the two men of the patrol may march abreast of each other 100 yards apart, as in Fig. 5, followed by the commander 50 yards to the rear.

Four men would march in a similar manner, a leader or point 50 yards at least in advance of the others, who would either remain with the commander as in Fig. 6, or be detached to each flank, as in Fig. 7, according to the nature of the route.

In open country a more extended front, up to perhaps 200 yards from flanker to flanker, as in Fig. 8, and a greater

distance from the point to the commander, may be assumed.

These formations enable the men, according as the ground permits, to see, mutually support, and assist one another, without bringing them so close together that they could all be cut off or taken at once, in the event of a surprise.

*The stealthy patrol.*—If possible, the men of a stealthy patrol should be led to high ground before starting, in order to observe the country they are to explore, and to have pointed out to them any landmarks or remarkable objects already noticed.

While employed on the duty of patrolling, the men must neither talk nor smoke. They must take care their arms and accoutrements do not rattle or clash, and abstain from noise in advancing, walking on soft ground in preference to hard, and making frequent halts to observe their direction both for advance and retreat.

They must note any peculiarities of ground which might be useful to them in falling back, and if necessary, in order to be certain of finding their road again on return, they must mark it out by broken branches, by scores on the bark of trees, by straw fastened to the trees or fences, or even by a heap of stones. These precautions are especially required where there are a number of paths intersecting one another at various angles in a close country.

During the day they will steal along hedges and walls, and move if possible by hollow roads and ravines, or water-course lines. They will disappear in woods and work through to the far borders on the enemy's side, whence, concealed from view, they may observe all that passes. A patrol should not take rest until its return, except during such time as it may be hidden in observation of the enemy. Should there be absolute necessity for a short halt, a place should be selected not too close to habitations and affording an easy retreat in case of necessity. By day it should be on high ground, but well under cover, so that the patrol can keep a good look-out and yet be unperceived by the enemy's scouts. By night it should rather be on low ground so as to bring



advancing foes into view against the skyline, the patrol remaining securely in shade.

The mission of a stealthy patrol being not to engage but to observe the enemy, it should avoid fighting unless it be necessary to force an opposing patrol to show its strength. Should the enemy's patrol or party be repulsed, the stealthy patrol must not pursue, unless it be necessary to do so for the purpose of gaining information.

A stealthy patrol should be disposed in such a manner as to render it improbable that the whole of the party could be taken or cut off. An endeavour should always be made to provide for some of the men escaping with the information. In case it should be necessary, with this view, to disperse before a sudden attack of the enemy, the party will make their way separately to a fixed place of rendezvous chosen by the commander on the march out.

The patrol should never as a body enter any building or its surroundings, nor should the men halt in its immediate neighbourhood longer than to make necessary inquiries.

Should two friendly patrols meet they must recognise one another without noise, especially if the enemy is at hand. They should interchange news before moving on.

On nearing the enemy stealthy patrols must redouble their precautions. One of the party should now and then place his ear against the ground and listen, and if suspicious sounds be heard the men must hide. Should they perceive the enemy on the march they must not fire nor show themselves, but, hidden from observation, seek to discover his force and design. If it is possible for one man to run instantly to the rear without being seen, he should be despatched with the news of the enemy's presence, rejoining his party again later on.

When a patrol suddenly comes across a sentry or party of the enemy during the night and is challenged, it should halt and remain motionless without replying. During the obscurity that prevails the enemy may possibly think himself mistaken and pass on, or else allow of the patrol retiring without detection. In the event of the presence of the party being

clearly perceived, time may yet be afforded for making good the retreat, if one of the men be able to speak a few words in the enemy's language ; or approach by this means may be made to the sentry, so as to carry him off before he can fire.

Should the patrol unexpectedly encounter the enemy in force, and be unable to retire in time to give warning of his presence, signal must be made by firing, the patrol falling back upon the route by which it had advanced.

Patrols, in a country where they can find their way with facility, and if not obliged to retreat before the enemy, should endeavour to return by a different route from that they had followed in going out.

Infantry patrols of the stealthy or secret nature should not as a rule extend their investigations farther than half a mile in advance of the troops from which they are detached.

The stealthy patrol, as employed by Continental armies, would not be composed of more than the three or four men whose ordinary formations we have already seen. But patrols of greater strength called reconnoitring patrols have often the same necessity for secrecy in their march and proceedings, so that many of the foregoing general rules are equally applicable to them.

With five men in open ground, Fig. 10, Plate X., the patrol can attain its first complete and perfect organisation as a marching body, having an advanced-guard, flankers, and a rear guard, the commander representing the main body.

The only exception to this order of march would be with the point of an advanced-guard, consisting of a non-commissioned officer and four men, which may be looked on as a pure reconnoitring patrol. Here, Fig. 11, the extreme front being the important point, there would be two men in advance, but none in rear as the following parties are sufficient protection in that quarter.

In proportion as the strength of the patrol increases, so the formation approaches nearer in all details to that of a column of troops *en route*. The distances and intervals between one body and another are extended, but they are

always limited to such that the power of directing the whole is not removed from the commander of the patrol. The direction comes from the commander to the leading man, either by voice or preconcerted signal, and through the leading man to the flanks, partly by signal and partly by a simple arrangement of conformity on the part of the flankers to the movements of the leading man. One or more men are always, when possible, in rear, not only for protection but to ensure the information being taken back should those in front fall into an ambush.

The typical formations shown in Figs. 12 to 16, Plate X., may now be studied, but it must be clearly understood that they are only to be followed generally, and so far as they apply to the special circumstances of each case; for the strength of the patrol is but one of many considerations to be taken into account, all of which must necessarily influence its exact order of march.

#### MOVEMENTS OF A SMALL INFANTRY PATROL.

The following notes on the method of conducting a small infantry patrol under various conditions, may also be found useful and tend to a better comprehension of the subject. They are compiled in great measure from the German and French regulations and instructions for infantry patrols, after careful comparison with our own system so far as it goes. The German system of patrolling is admittedly good, while in the French service all minor tactical details of duty have been strictly revised, with due regard to the lessons taught by the last war.

*The patrol in a close country.*—In a close country the advance is beset with difficulty from the outset, as the patroller is exposed to the chance of an enemy being behind every obstacle he encounters. The men must therefore move with the greatest circumspection and from one point to another, where they should halt and carefully reconnoitre before advancing farther. These points should be close to one another, and the movement from one to the other rapid,

if the enemy is near and the ground favours surprise. The patroller must look sharply about him, and take care that he discovers the enemy's presence before the enemy discovers him.

*In an open country.*—In open ground if the danger of surprise is less the difficulty of concealment becomes greater. The patroller must therefore be still more cautious, so as to avoid being detected by the enemy. He must take advantage of the smallest extent of cover, neglecting nothing that may enable him to escape being seen. He should work up the roads close to the fences if there are any, sometimes in the ditch. He must the more carefully examine places where the enemy might lie concealed as they are fewer in number. If a column is following in rear, care must be taken that its march is in no way retarded by the researches of the patrol. The reconnaissance must in such cases not only be effected with the requisite exactness, but with sufficient rapidity, time being an important element in these operations.

*At lateral roads.*—When a patrol comes to a branch road, two men, one in advance of the other, should push rapidly up it till they come to the first turn in its general direction. From this point they can generally see some way up the road. If nothing is in sight they return, but should they see anything suspicious one man runs back rapidly to stop the patrol's advance along the main road, while the other, hidden at the turn of the branch road, continues to reconnoitre.

*When crossing fields.*—In traversing fields, the hedges, ditches, banks, and the least accident of ground must be utilised to the fullest extent. If the cover is parallel to the general route, the patroller must keep it between himself and the probable quarter in which the enemy may be; but if it is perpendicular to the advance, he must halt behind each obstacle to pull himself together, look out for a moment, then rapidly clear it, and push on to the next point with all speed.

*When ascending hills, knolls, or high folds of ground.*—On approaching hills or high ground, if there are sufficient men

in the patrol to send one or more to each flank round the base of the hill, while the leading man advancing up the near slope looks carefully over the summit from behind the brow, it should always be done. But if there are only three or four men in the patrol, one must advance up the slope followed by the second at a little distance, the other man or men farther to the rear so as to communicate back to the following column, if there is one, or to ensure all of the party not being surprised or cut off, if the patrol is detached. In such a case as this, the formation shown in Fig. 1, Plate X., the senior or chief of the party should advance second up the dangerous ground. If the leading man sees anything doubtful he makes signal, and the commander holds up his hand as sign for every one in rear to halt, while he moves up to the leader to reconnoitre. Should all be well he gives the sign to advance again. The point or leading group of an advanced-guard, which, as we have remarked before, is a reconnoitring patrol, may be worked in this manner; but a more confident advance is possible in such case than if the patrol is isolated, both on account of the supporting parties in rear, and of the close vicinity of the flanking parties upon whom much of the examining work devolves.

*At a defile.*—If the sides or heights bordering the defile can be examined without too much loss of time, they should be reconnoitred by flankers before the leading man enters; but if the examination cannot be made, either because of their inaccessibility or on account of the time that it would take, the patrol must go through without it. First one man leads off at a steady double, looking out sharp to right and left as well as front, and ready to give instant signal by firing if necessary; then another man follows at a short distance in the same fashion. Should the defile be too long to keep up the double march right through the pace must be moderated. The third man remains at the entrance as long as he can see the others, then follows them. With a sufficient number of men a patrol may fairly reconnoitre a defile in this manner even if the flanks are inaccessible, and rapidly transmit back a signal of safety or danger through its entire length. In

no case, however, but that of absolute necessity should a force be permitted to enter a pass through hills or woods, if the enemy may be near, without both flanks being thoroughly examined by the advanced patrols. In the case of hills, the nearest crest on either side should if possible be occupied. In irregular warfare this is very important.

Should there be any cross roads in a defile, the point of an advanced-guard must carefully examine them for some distance up, before passing on, as the enemy might possibly by those means make a flank attack on the column.

*At a hollow road.*—The same rules apply to the case of a hollow road, but it is usually possible to occupy the crest on either side, which should accordingly be done. If the patrol is small or the ground too difficult, the hollow road must be passed in the manner prescribed for the defile under similar conditions.

*At a bridge.*—Before crossing a bridge it should be carefully examined to ascertain if the enemy has tampered with it. This is the first duty of the two leading men of a point if a column is on the march. Should the bridge appear safe the patrol would pass over it at the double, in the manner suggested for a short defile with inaccessible flanks.

*At the passage of a stream or ford.*—When a stream or ford is met with, across which there is only a narrow passage, the patrol must restrict its front. As soon as the crossing is effected the flankers spread out again right and left. If a watercourse stops the advance and no information as to fords can be obtained from the inhabitants, or by first inspection, the stream must be sounded, should a column be following in rear. Should the patrol be alone, a detour may be effected unless the stream can be crossed by any ready expedient.

*When searching small woods or groves.*—The leading man goes along the outside edge of the wood, followed a little in rear by the commander, who works along the border just inside it, so as to see well into the wood without at the same time losing sight of the leading man outside. The third man follows, well to the rear, outside the wood. If the preliminary

examination of the border reveals no sign of occupation, the two men in front cautiously enter the wood, and, going through it, look out from the opposite side keeping well concealed. The third man follows them up round the outside edge, and finally joins the others when they emerge from the wood on the farther side.

*When searching large woods.*—If the wood is of any extent, a small patrol of three or four men must content itself with, at the best, an imperfect examination. If not intersected with roads, the borders alone can probably be explored, the method suggested for small woods being followed. Should there be a road through the wood, one man would reconnoitre up it to the first turn, whilst the others examine the borders of the wood on each side of the entrance. If nothing is discovered the patrol would then advance through the wood, one man leading on one side of the road, looking out well to his front and also through the wood to his flank, the next man following at a little distance on the other side of the road, keeping an eye on the leading man, and also looking sharply through the trees on his own side. The third man follows keeping the others just in sight. Having gone through the wood, they examine the farther border, and if time admits would work right round the wood. Should there be other roads, they can also be patrolled in similar fashion.

The complete reconnaissance of woods with a larger force will be discussed later on.

*Examining houses, farms, &c.*—When a house or farm is approached by a small patrol, it should be well reconnoitred from a little distance to see if it appears occupied by the enemy. Should the first inspection be satisfactory, the commander and another of the party advance resolutely to the front entrance, the third man remaining hidden about 50 yards off within sight of the door. If the party is larger, the back and front entrance would be simultaneously visited. On the owner or some other person coming out, the commander obtains what information he can from him. If the summons is disregarded, one of the men enters and brings some one out. Should all appear so far safe, the house and

enclosure is now thoroughly searched by two of the party, always leaving a guard outside. Should the searchers not reappear after a limited time, or if they do not answer when called upon, the man or men outside will fire a signal shot. Should this meet with no response, information of what has occurred must be taken to the rear by one man, the others, if there are any, remaining in secret observation till reinforced.

*Examining small villages or hamlets.*—A large village or town should never be entered by a small detached patrol. It must merely be reconnoitred from favourable ground without. Should the village be in occupation by the enemy, some sign of his presence will no doubt be perceptible. In the case of a small village, the patrol may enter after due precautions, first seizing if possible an inhabitant of an outside house or farm to give information. A child or one or two children or youths should be taken by preference, and be questioned separately. They are more likely to disclose, or fail to conceal, the truth than grown-up persons. If the enemy is in the vicinity, the news will leak out in some form or other. Should all appear safe, the patrol will enter the hamlet, which will generally consist of houses on each side of a main road or street. The two leading men march one behind the other, the commander of the party second, on one side of the road, looking up at the houses opposite. The third man remains at the entrance unless the road twists, when he follows to keep the others in sight. Having gone right through the village, two of the party endeavour to obtain information, if necessary re-entering for that purpose, one or more being always outside. These last should, if possible, be posted in some good position for observing what passes, so as to be able to get off if the other men are seized by some of the enemy concealed in the houses.

*When approaching habitations at night.*—If a patrol comes across houses or a village after nightfall, the men must conceal themselves close by and listen for a few minutes. Should no unusual noise betray the enemy's presence, the two leading men must creep up to the nearest doors to listen,



and endeavour to look in at any windows where there is a light to be seen. If information cannot be obtained by these means, an inhabitant must be seized should it be absolutely necessary to procure intelligence. If there is a village watchman, he can probably be taken by surprise. This is especially important if other troops are following in the rear.

#### DUTIES OF THE COMMANDER OF A SMALL INFANTRY PATROL.

The commander of a patrol may sometimes, under the exigencies of service, be a private soldier, but if so his lowest qualifications, in addition to general intelligence, should be those already mentioned of capacity for reading his orders and writing a clear and correct report. A really good patrol leader should have a special aptitude for the duty. Courage, energy, and activity may be found in many of our non-commissioned officers and men; but there should be also some degree of cunning, coolness, and an eye for ground, with development of the sense of locality, and, above all, the power of quick decision. The patrol commander should also have been thoroughly instructed in the details of this special service.

When the commander receives his instructions either verbal or written (in the first case immediately committing them to paper), he should first of all ascertain to his own entire satisfaction that he clearly understands them. If there is anything not quite plain, he must ask for further explanation. Should he not already know the ground he has to traverse, he must request information about it.

Before marching off, the commander carefully inspects his party, and sees that their ammunition is correct, that their rifles are in good order, and that no man has a sore foot, or a boot or stocking likely to cause one on the march. He also takes care that their accoutrements are fixed so as not to rattle, and that anything glittering on their head dress is dulled or removed.

He must ascertain that the men perfectly understand what signals are to be made use of between themselves.

The signals authorised by the Field Exercise are :

To advance . . .	A wave of the hand or sword.
To ask for reinforcement . . .	Headdress held or waved above the head.
No enemy in sight .	Rifle or sword with headdress upon it held up perpendicularly.
Enemy in sight .	Rifle or sword held up horizontally.
Enemy in very small bodies . . .	Rifle or sword held up steadily.
Enemy in strong bodies . . .	Rifle or sword lowered and raised.

To these should be added the hand held up high above either shoulder to signify 'halt' to every one in rear.\*

These signals will usually suffice by day, but in close ground, or in a fog, or at night, a few others by sound will be necessary. A whistle† can either be used, or a call like the cry of some animal may be arranged.

In any case the commander of a patrol before starting, should put the men through their signals, which, it must also be impressed upon them, are only to be used when necessary, and then with caution, so as not to attract the enemy's attention.

The commander of the patrol should be provided with a watch, pencil, and paper, and if possible with a pocket compass.

\* This is the signal to hold hard which a coachman *en queue* makes to the carriage behind to save the back panel of his master's carriage, and means 'stop' all the world over.

† The whistle either as a means of signalling or of drawing attention to other signals is valuable by day or night, but although its employment is sanctioned in our service, we have not yet fully developed its uses. As a means of communicating with men at some distance it is unequalled, being suitable to all weathers. The writer of this manual when in China, some years since, made use of the ordinary boatswain's whistle, to work gangs of Chinese labourers employed in constructing a line of telegraph, and found it answer admirably during twelve months' trial.

The commander should read his orders to the men of the patrol, and should also explain to them, more fully and exactly, what is the object of the patrol, and where the enemy is supposed to be ; he should moreover inform them what is to be their general route for advancing and for returning.

All being ready the patrol marches off, the commander selecting and pointing out to the men, as they proceed, a convenient place of assembly, in case they have to scatter before the enemy or become unavoidably separated.

If the patrol is of sufficient strength the commander will tell off a leader or point, flankers, and a rear-guard, and will indicate to each the duties they have to perform. He will show the leader the route that is to be followed and the general direction of the march. He will tell the flankers to what interval they are to extend, and direct them to conform to the movements of the leading man. He will order the rear man or file to follow at a convenient distance, keeping the commander constantly in sight, and to watch over the rear of the patrol so that it shall not be surprised by a sudden attack in reverse.

If the commander detaches any of his party to reconnoitre to a special point, or upon any duty which separates them temporarily from the patrol, he should always specify the place for them to rejoin and make their report.

If the ground is known or the commander has a map, this is simplified, as he can select an object or place in advance which cannot be missed by the detached scouts or flanking party, such as a bridge or four cross roads. Sometimes a landmark is visible which may serve for a place of rendezvous, but if a place cannot be determined upon the men must be directed to rejoin the patrol after a fixed period of time ; in this case the intended route of the main body must be clearly explained to the detached men, and strictly adhered to by the commander.

On the march the commander must pay particular attention to the leading man, and to the flankers while he can see them, and on signal that something unusual has been per-

ceived by either of them, he should halt the patrol and run up himself, keeping as much under cover as possible, to the point in question. If the flankers cannot see the commander on account of the ground or intervening obstacles, they transmit their signals to him through the leading man.

Should what has been signalled prove to be persons approaching, the commander must close in his men and keep them concealed and ready for action, 100 yards or so from the main route, while one of his men reconnoitres in front. Should it turn out to be a party of the enemy, he can thus in safety observe them and decide what is best to be done, before, if at all, permitting his men to be seen. On the other hand, should the persons be inhabitants, the commander may examine them if few in number, and detain, or keep back with threats if necessary, any that wish to travel on in advance of, and in the same direction as, the patrol.

If the commander wants a guide from these people he should, if he can, select one whose occupation would lead him to know the country, such as a hawker, keeper, or poacher. The guide should be treated with great kindness, unless there be reason to suspect him of treachery. In the latter case, should there be any attempt to escape or difficulty in watching the man, he can always be prevented from getting away on the march, if dressed in European costume, by removing his braces, or the strap round his waist, or his top waistband button. A man cannot run with facility while he has to hold his trousers to prevent them from slipping down.

The commander, knowing the intention with which his patrol has been sent out, should endeavour to act under all circumstances so as best to carry out the specific object in view. We have said that he must not hesitate before starting to demand further explanation if his instructions were not explicit enough. He should therefore now be able to decide in his own mind the following questions:

1. *To what point or distance is he to reconnoitre?*
2. *Is he to look for the enemy in every direction, or in one particular quarter only?*

The commander should always if possible have been told whatever is known of the enemy's position, for in the second of the above cases the duties of a patrol would differ, according as to whether the enemy had been already seen in a certain direction or not. The first patrol touching upon him would not reconnoitre farther than to be fully satisfied of his presence, and would at once return to head-quarters with the information so obtained ; but the patrols sent out upon receipt of this intelligence would have the more definite duties of ascertaining the exact dispositions made by the enemy, the number of his posts, the extent of his front, and any other important particulars.

3. *What must he do on meeting the enemy ?*

We have shown that he must first of all reconnoitre the enemy unobserved, but his duty should have been made so clear to him that he can also now decide whether under any circumstances he should allow his party to be seen. As a general rule a stealthy patrol would not show itself or fight. On the other hand, a reconnoitring patrol of greater strength would not hesitate to push up close to the enemy's sentries or patrols, and might even disclose its presence in order to carry out its object.

The commander of a patrol should fully understand the value of certain military indications, and impress upon his men their meaning and importance. Footsteps and other marks on roads, paths, or open ground, frequently betray the direction of march of a column, its composition, approximate strength, and the time at which it passed.

If the ground is evenly trodden over, the column was composed of infantry alone. If horse shoes are imprinted as well, cavalry was probably there in addition. If there are recent ruts or wheel marks, artillery or wagons accompanied the force. The proportionate strength of these arms might be roughly estimated by the character and numbers of the several marks, the traces of many hoofs outside the wheels distinguishing cavalry from draught horses. If the tracks are fresh the column must have lately passed. Should the country be open and many marks of horses appear upon each

side of the main track of infantry and artillery, it may be gathered that the enemy was pressing forward his march with cavalry on his flanks, in order to bring up his whole force together.

The dust arising from the march of troops appears low and thick for infantry columns, higher and floating away more rapidly for cavalry. Artillery and wagons raise dust in disconnected clouds not so regularly as the other arms. When the troops are some distance off, by observing the approach of the dust to certain fixed points, the direction of the march and even its rate of progress may by practice be estimated.

If reflection is seen from the arms, and it is steadily brilliant, the troops are most likely advancing towards the spectator; if the rays are duller and more intermittent the troops are probably moving away.

If the smoke as well as the light of a fire is seen, the fire is nearer to an observer than when no smoke can be discerned.

The rumbling of vehicles, neighing of horses, barking of dogs, or any other unusual noises, especially at night, indicate generally the arrival or departure of troops.

The noise which a strong column of troops makes on the march is distinct and continuous, that made by a small force not so clear and more interrupted. In calm clear weather, or if a light breeze is blowing towards the reconnoitrer, the march of even a small body of infantry, a company for example, may be heard about 500 or 600 yards off. When there is frost the sound will travel much farther.

On a clear day a reconnoitrer of good vision can discern the presence of troops at 2,000 yards with the naked eye. At that distance a single man or horse appears like a dot. At 1,200 yards cavalry may be distinguished from infantry and movements are perceptible. At 900 yards troops are clearly seen. At 800 yards the motion of arms and legs may be perceived. At 600 yards the head of a man appears as a small ball or orange to the spectator.

When a reconnoitrer stands facing the sun, he must bear

in mind that objects will generally appear to be nearer to him, than when he stands with his back to the light.

Should a patrol meet with nothing unusual during its reconnoissance, the commander makes no report till his return. The report should then be made verbally or in writing, according to the importance of the reconnoissance. Reports sent back by messenger should always be written, except in great emergency when it is not possible to commit them to paper.

All reports should be as short and concise as can be. At the head of every report should be given its number, name of writer, exact place where written, name and address of person to whom sent, with the day and hour of transmission. The body of the report should be written much in the form of a telegram, omitting all useless words but leaving out nothing of importance. Positive information, or what has been seen or heard by the patrol, should be carefully separated from second-hand information or that obtained from other sources.

The messengers selected to carry reports from the front should be sharp intelligent men, and if the report is by word of mouth they should be made to repeat it over, until they perfectly and clearly understand what they have to say.

The following form of report will be found useful :

	From . .				
	Place . .				
	To . . .				
No.	At . . .				
	Despatched	h.	m.	m.	, , 187...
	Received .	h.	m.	m.	, , 187...
Signature of }					
sender }					

Many of the foregoing hints for the working and proper command of small infantry patrols, will apply with equal force to those of a greater strength. The general formations would also be based upon similar principles. When a patrol of any strength, however, arrives near the enemy, it must rather extend than contract its front even at the risk of one or more men being cut off. No proper reconnaissance can be made or information obtained without this extension; and the patrol is also, should it be attacked when in extended order, in better position to defend itself at once, every rifle being in the front line, than if it were still in the column of route formation. Here again the extension gives a certain security that one or more will get off with the news even should the patrol be overpowered by the enemy.

The two formations, therefore, which should be adhered to in working infantry patrols are, first, the route formation based on the principles laid down for the march of advanced-guards; and, second, the extended formation, which, both for purposes of observation and purposes of defence, should be assumed on nearing the enemy.

These formations for patrols of nine or twelve men would be much as shown in Figs. 17 to 22, Plate X.

The commander, it will be seen, usually marches with the main body in column of route and occupies a generally central position in the extended order. There may, however, be cases where, the country being pretty open, the commander may march near the head of his patrol, as shown in Fig. 21.

The second in command, should there be one, would march with the main body in route formation, and take charge of the most dangerous flank in extended order.

With a patrol of the strength of nine men or upwards, the reconnaissance or examination of the various details of ground alluded to, would be made by a point or leading group consisting of three men. The remainder of the patrol would in such case represent the column following in rear.

With a patrol of such strength the reconnaissance of large woods becomes feasible.



## A PATROL RECONNOITRING A LARGE WOOD.

Woods, when of some extent, often afford considerable cover to the enemy. Two general conditions present themselves to the patrol :

1. *The wood is on one side of the main route.*
2. *The main route passes through the wood.*

In the first case a patrol on approaching the wood should advance upon and enter it in extended order, the flanking group working up the outside edge of the wood nearest to the main road, and preserving the touch with the extended party inside.

The extended patrol pushes through the wood, the men keeping within sight or easy hearing of one another. If the wood is passable right through, they emerge on the opposite side ; but if it becomes at any portion too thick or close to continue progress, the patrol must work out to the side upon which its flanking party was left. Should there be any chance of straying in so doing, the patrol must retire by the way it came, and, joining its outside group, proceed to examine the edges or borders of the wood. A part of the patrol may in such case be sent round the other flank of the wood, or to search any specially suspicious spot, but it may be assumed that those portions of the wood too thick for the patrol to penetrate through even in loose order are not likely to be occupied by the enemy.

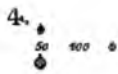
In the case of a column following, the patrol would probably have been sent up from the supports of the advanced-guard, the ordinary flanking group of the advanced party not having been strong enough to reconnoitre the wood. Under such conditions time would not admit of much delay, and perhaps complete examination of a large wood could not be made ; but even if assurance is obtained that the enemy does not occupy the side of the wood bordering the march of the column, a certain amount of security for its advance is thereby afforded.

Should the main road pass through the wood, the patrol must advance along it with great precaution. The mode of

# **PLATE X.**

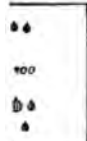
**try Patrols.**  
*distances in yards.*

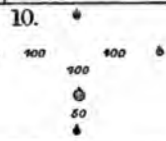
3. 

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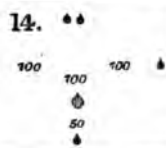
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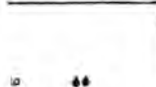
7. 



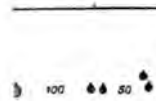
10. 

13. 

14. 



17. 



20. 

*Wellington House  
 1878*

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**B. These formations, intervals & distances are only intended as a guide. They may be modified according to circumstances & are not to be rigidly adhered to**

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proceeding here recommended is only suitable in its fullest extent to patrols of some strength, or to the advanced-guard of a column ; but the general principles of reconnaissance suggested can be equally well applied to any ordinary patrol, whose numbers enable it to send on a leading group in advance of the main body.

The leading group or point of three men would first search the borders on each side of the entrance, and then reconnoitre up the road as far as the first turn. Flankers would at the same time be detached to go round each edge of the wood, and to meet on the farther side. The point would then advance up the main road, man by man as laid down for a small detached patrol. An advanced party of the patrol would follow the point, extended across the road and on each side of it, on a front which should not exceed 100 yards even with a large patrol. A support of sufficient strength follows, marching in file on each side of the road.

The remainder of the patrol waits at the entrance to the wood, sending on connecting files to keep up communication with the advanced party and its support.

The extended order of the advanced party may be continued right through the wood, should the passage be easy ; but if very obstructed the line must be contracted, and detached scouts pushed through any less dense portions to either flank. Any lateral road would be completely examined by flank patrols, and up to, or something beyond, the first elbow or turn before the advanced party passes it.

The point signals back 'no enemy in sight' on debouching at the farther side, and the main body of the patrol then enters the wood.

When the whole of the patrol has passed through and the flankers have rejoined, a further reconnaissance of the wood on each side of the road may, if time admits, be then effected, in the manner laid down for the first condition ; or if the wood is further intersected by roads, these may be traversed successively by the patrol, until every portion of the wood has been thoroughly examined.

## THE MARCH OF A FLANKING PATROL.

A flanking patrol of some ten to twenty men, furnished from the reserve of the advanced-guard or rear-guard, or from the main body of a strong reconnoitring party, or of a column, might be sent to reconnoitre and advance along a parallel route, or to examine special details such as farm-houses, woods, or defiles some distance away upon the flanks.

Such a patrol would be considered as detached upon a specific duty whatever it might be, with orders to rejoin whenever it was accomplished, or to fall in again with the main body at a fixed place of rendezvous.

The patrol would usually advance, along a parallel route, so far as permitted by the ground, with a point, rear-guard, and special group on its exposed flank.

To take, for example, the case of a flanking patrol composed of a sergeant and twelve men, they would ordinarily be disposed on the march as shown in Fig. 1, Plate XI. Here they are moving along a generally parallel route, with a river between the main party and the patrol.

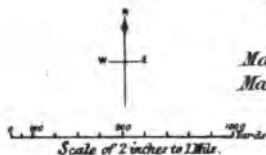
On coming opposite to a bridge, opportunity of communicating with the main party is afforded, as shown in Fig. 2.

On the patrol coming near a bridge over which it wishes to pass, the point (reinforced from the rear if necessary) crosses over at the double, taking up the best defensive position beyond the bridge for covering the passage of the patrol. The point remains steady, until the patrol has filed across, and has resumed its march along the farther bank of the river, in the manner shown in Fig. 3.

The patrol being now between the main party and the river, the advance along the route must be secured, on coming opposite to a bridge or other place of easy passage, by a group detached to hold the dangerous point until the patrol has passed on. This is shown in Fig. 4. Here also the road which the flanking patrol has to follow, is commanded on the inner side by high ground; it will therefore be necessary to have a group on that flank, in addition to the group watching the bridge.

# Flanking Patrol.

March of main column  
March of flanking patrol







## EXERCISE V.

INFANTRY PATROL.

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## IDEA.

A piquet of infantry (Red) is posted on the south side of Winsley Bridge on the Pawley Road. The piquet has two double sentries, one post being near Magpie Wood, the other overlooking Drayton Farm. A strong reconnoitring patrol, under Lieutenant E., is sent out to search the village of Pawley and reconnoitre Drayton Wood. On leaving the piquet the officer sends a flanking group, of two men under a lance-corporal, to examine Drayton Farm, and also orders Sergeant W. to take five men to reconnoitre Drayton Wood, which is seen about half a mile to the front. Lieutenant E. with the rest of the party proceeds to Pawley, crossing over the fields south of Magpie Wood.

The sergeant is to send report to the commander of the piquet direct, as well as to Lieutenant E., should he touch suddenly upon the enemy.

At the same time that this reconnaissance is about to be made, the enemy (Blue) is proceeding to post piquets along the line of Churton and Wiley Hills, facing north.

## MOVEMENTS OF THE SERGEANT'S PATROL.

## FIRST STAGE.

*Red.*—The sergeant on arriving at the main road, which branches off to Pawley on the one hand and to Drayton Hill on the other hand, finds a small wood to his right front and a larger one (Drayton Wood) to his left front. He sends his right flanker through the smaller wood, to the south side of it, and two flankers, one following the other, round the north-eastern side of Drayton Wood. The leading man of the patrol proceeds

along the Drayton Hill Road which skirts the west of the wood, while the fifth man follows behind the sergeant as a reserve or rear-guard.

*Blue.*—The leading files of a piquet have just reached the plateau of Churton Hill coming up from the south.

#### SECOND STAGE.

*Red.*—The patrol advances until the leading left flanker, who is on the eastern side of Drayton Wood, ascends the rising ground, and sees another large wood extending across his front and limiting his view. The man halts, and calling up his comrade who is in rear, tells him to cross the wood to the road and report to the sergeant.

*Blue.*—The piquet advances up to and through the copse on Churton Hill, part in extended order and part in support.

#### THIRD STAGE.

*Red.*—The sergeant, signalling to the other men to halt, crosses the wood, and keeping concealed at the border, examines carefully the wood in his front. The instructions he has received, are to examine the wood pointed out to him, (that which he has just traversed), and not to go farther than half a mile beyond the piquet sentries. The wood he is now watching is in reality part of Drayton Wood, (being the southern portion, separated from the northern portion by a strip of open ground), but it appears to the Sergeant to be clearly another wood, and beyond the limits laid down for his reconnaissance. He feels, however, that it ought not to be left unexamined, and, although there is no sign of its being occupied by the enemy, he is anxious to see what may lie beyond. He therefore determines to push on, and ordering the left flanker to double across the open and get under cover just within the wood, he himself returns quickly to the road and sends forward the leading man, signalling to the right flanker also to advance. The road appears to traverse the new wood, and the leading man arrives at its entrance, while the right flanker skirts round the western end. The second flanker on the left follows the first one, the Sergeant preserving a central position on the road, supported in rear by the remaining man.

*Blue.*—The piquet passes through the copse and halts under

cover of its farther edge, while the commander posts his extended men along the front as sentries, despatching a patrol to search the small copses near the Watermill, on the south bank of the Millbrook.

## FOURTH STAGE.

*Red.*—The patrol advances slowly and with caution, until Sergeant W. hears a low whistle from the right flanker on the edge of the wood.

The sergeant halts the patrol and joins the man, who points out to him, from the south-western corner of the wood, armed men moving on Churton Hill. Telling the man to lie down under cover, in observation, Sergeant W. passes along the south border of the wood, stationing the men of the patrol just within it, and taking care to keep himself and them well concealed. Having observed Blue's movements from two or three points of view, the sergeant is satisfied as to their object, and despatches one of the men with this report:

	From . .	<i>Sergeant W., commanding patrol.</i>
	Place . .	<i>Drayton Hill.</i>
	To . . .	<i>Officer commanding piquet.</i>
No. 1.	At . . .	<i>Winsley Bridge.</i>
	Despatched	11h. 15m. A.M. 22.4.77.

*'Enemy posting sentries on hill south of stream.*

*'W., Sergeant.'*

A similar report is sent by another messenger to Lieutenant E. at Pawley.

The sergeant and remainder of the patrol continue to observe the enemy, until the return of the last messenger, who is accompanied by Lieutenant E. and his party. Sufficient further reconnaissance is now made under the direction of the officer, the Red party on its conclusion withdrawing quietly from the wood, and returning to the piquet at Winsley Bridge.

*Blue.*—The commander completes the posting of his sentries, and his patrol, after searching the copses south of the Watermill, returns to Churton Hill. A patrol is subsequently sent out to reconnoitre across the stream, and this party, in the course of its reconnaissance, examines the wood just quitted by Red, without any result.

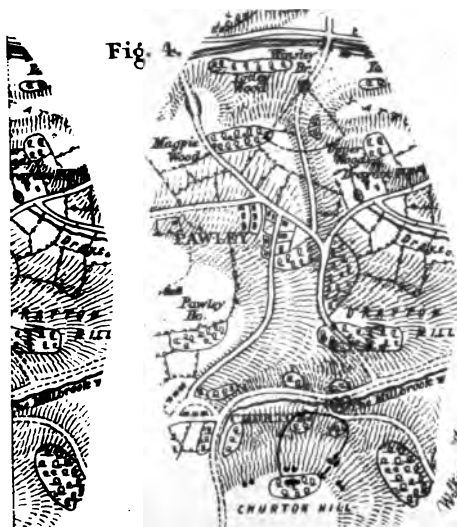
## OBSERVATIONS.

The principal point worthy of attention in this Exercise, is the impossibility of drawing a hard and fast line, as to the limit of distance from its main body which a patrol should not exceed in its advance. Circumstances may continually arise under which discretion must be allowed to the patrol commander.

In the case before us, had Sergeant W. neglected to examine the second large wood for fear of overstepping his orders, he would have failed to gain valuable information of the enemy's presence in the vicinity. Had the wood, however, on closer inspection appeared too extensive for him to attempt to search, his best course would have been to take cover, and to send for reinforcement, which was moreover not far off at Pawley. Lieutenant E., in giving Sergeant W. his orders, should have referred to his map, instead of satisfying himself with observing the wood through his glass. Had he done so he would have known that there was a second large wood just beyond the one in sight, and he would certainly not have given orders to the Sergeant, which, if literally obeyed, would have prevented his searching or examining it.

Blue should have sent a patrol earlier to Drayton Wood, which was only 600 yards from his line of sentries. Had he done so, he would in all probability have detected the presence of Red.

Infantry Patrol.





## EXERCISE VI.

STRONG INFANTRY PATROL, AND INFANTRY ADVANCED-  
GUARD.\*

## IDEA.†

A force (Blue) bivouacked on Fenley Downs throws forward an outpost line of observation to the Tarbor River. The reserve of the outposts shortly after daybreak sends out three strong reconnoitring patrols, the centre patrol having orders to cross over Yatton Bridge, and to look out from Rainham Hill for indications of an enemy advancing from the north.

A column (Red) consisting of a strong battalion of infantry, and a battery of artillery, is marching from West Enton on Glenfield, with intent to seize Rainham Hill and command therefrom the bridges on the Tarbor River. The right flank of the column is covered by a strong reconnoitring party, sent out simultaneously from West Enton to examine Thornton Hill and the adjoining high ground. This party is composed of infantry, no cavalry being available, but a few mounted men are added to act as a communicating patrol.

The point of the advanced-guard, of the Red column, has reached Five Roads Cross.

## FIRST STAGE.

*Blue.*—The centre patrol under Lieutenant A. consists of 1 sergeant, 1 corporal, and 30 men. Passing through the outpost-line Lieutenant A. disposes his party as an advanced-guard, and

\* The writer is indebted to Major Cardew, 82nd Foot, for the Idea and outline of this Exercise.

† When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.



*crossing Yatten Bridge proceeds with precaution through Rainham Wood. One file is sent to work round the right flank of the wood, and another file round the left flank, with orders to examine the borders thoroughly and rejoin the main party on Rainham Hill. The advance is not delayed for the flankers, the leading group or point, two men under the corporal, entering the wood at once by the main route. One man leads on one side of the road, followed by the second man at 50 yards' distance on the other side of the road, the corporal a little in rear. Six men follow, extended in line, marching right and left of the road through the wood, supported by four men, two on one side and two on the other side of the road, in single file, the whole under the sergeant. One or two connecting files keep up the communication with the reserve, which remains under Lieutenant A., at the entrance of the wood, till the leading group reaches the farther side and signals back that all is clear.*

The leading man of the point on emerging from the wood crosses to the edge of the plateau, and conceals himself behind the crest overlooking Glenfield Common. He immediately observes something like troops moving beyond the stream, and summons the corporal, who comes up hastily with the other man of the group. The corporal sends back word of what is to be seen to the sergeant, who despatches two men of his party to each of the small copses on the right and left front, with orders to look out from the farther borders and to signal whether they can make out troops. The left file signals 'No enemy in sight,' the right file signals 'Enemy in sight in small numbers.'

Lieutenant A. now arrives on the plateau, and, receiving the sergeant's report, runs out at once to a point on the spur of the hill above Glenfield, whence he can obtain the best look-out to the front. He lies down in the heather just behind the crest, and with his glasses observes an advanced-guard of infantry moving up to the bridge. The morning is misty and the distance to the Five Roads Cross about a mile. He cannot make out the main column, but hears a rumbling as of wheels, the wind being north-east. Presently he sees that the leading files have crossed the bridge, and have advanced to the group of houses near the stream which are marked Wyke Farm on the map.

*Red* —The advanced-guard consists of 150 men under Captain B; Lieutenant C. commands the support. Information from the reconnoitring party on Thornton Hill having been received, by means of signal made from Farley Hill by the communi-

cating patrol, to the effect that the flank is safe, the advanced-guard proceeds to cross Glenfield Common. The point has reached Five Roads Cross, and the bridge is seen in front, with the town of Glenfield beyond it. It is 6 A.M., and the point, pushing rapidly forward, crosses the stream, and at the out-buildings of the farm, not far from the bridge, succeeds in securing a cow-boy, from whom the information is extracted that there are soldiers on the far bank of the Tarbor River. The flanking files of the advanced party have now closed in and crossed the bridge, the stream not being fordable, and Lieutenant C. coming up and receiving the information from the commander of the point, who has run back with it to the bridge, decides to turn the east flank of the village before entering it. He sends report of what he is doing to the rear, and then prepares to move off to the left along the south bank of the stream with half the support, leaving the other half at the bridge, and directing the right flanking group of the advanced party to move round the west of the town. The reserve is coming up in rear under Captain B.

## SECOND STAGE.

*Blue.*—Lieutenant A. from his post on Rainham Hill observes the manœuvres of the enemy's advanced-guard, but owing to the mist still prevailing cannot clearly discern what troops are in rear. He determines to dispute the enemy's advance until he can ascertain the strength and nature of the column. He now despatches a messenger to the rear with the following report:

	From . . .	<i>Lieutenant A., commanding patrol.</i>
	Place . . .	<i>Rainham Hill.</i>
	To . . . .	<i>Officer commanding outposts.</i>
No. 1.	At . . . .	<i>Churton Hill.</i>
	Despatched	6h. 10m. A.M. 3.8.77.

*'Small infantry advanced-guard approaching Glenfield from north. Head of column in rear shown by dust—can hear noise of wheels. Will dispute advance, if necessary, to learn strength of column.'*

*'A., Lieutenant.'*

The mist soon clearing gradually away, Lieutenant A. makes out with his glasses the head of the main column of infantry approaching Five Roads Cross.

He sends forward the corporal and six men to occupy the northern edge of Long Wood on the west of the road, and four men to occupy Birch Copse on the east of the road, with orders to keep well concealed behind the trees. The rest of the party under the sergeant are posted behind the crest of the hill, overlooking the Glenfield Road. Lieutenant A. himself remains at his post of observation, and on the head of the main column of the enemy reaching Five Roads Cross, proceeds to time its march as it advances to the bridge. The leading files of the enemy now pass through the town and commence to ascend the hill, but their advance is checked by the fire of the men concealed in the copses. An engagement takes place, in which the Blue patrol succeeds in holding its ground long enough for Lieutenant A. to complete his observations.

*Red.*—Captain B. arrives at the bridge with the reserve of the advanced-guard, and presently receives signal from Lieutenant C.'s party, on the higher ground to the east flank of the town, that all appears safe. The point and the right flanking group then enter the town simultaneously, man by man, and march right through it. Captain B. follows with the half of the support left at the bridge, the reserve bringing up the rear. Lieutenant C. moves up to the Royal Arms Public-house and its enclosure. The head of the main column has by this time reached Five Roads Cross. As the leading files pass out of the town, and commence to ascend the slope of Rainham Hill, in order to look out from the summit, they are fired upon right and left by the ambushed groups of the Blue patrol. The leading files fall, and the advanced groups, which are following, double up to whatever cover they can find at the entrance of the town, and open fire in return upon the copse and wood where the enemy is concealed.

Lieutenant C. perceives that the ground to his left flank admits of a sheltered advance, and moving his party quickly there, anticipates Captain B.'s order, which he immediately afterwards receives, 'to take the enemy in flank,' by bringing up his men in extended order into position behind the bank and fences of the Glenfield-Ripley Bridge Road. Thence he opens a sharp flanking fire upon Birch Copse and Long Wood.

Captain B. sends the remainder of the support to Lieutenant C., and reinforces the parties lining the entrance to Glenfield from the reserve. The main body of the reserve he keeps behind the church, until the flanking movement by Lieutenant C. is completed.

Lieutenant C., on being reinforced, brings a hot fire to bear on Blue, which quickly drives the party out of Birch Copse on the east side of the road.

### THIRD STAGE.

*Blue.*—Until the flank attack is made by the advanced-guard the Blue patrol maintains its position with ease, the sergeant's party lining the crest of the re-entrant which commands the main road, and the advanced parties right and left in the woods, being able to prevent Red's groups at the entrance of the town from leaving cover.

On the flank attack being made by Red, the sergeant's party leaves the re-entrant, and pushes forward to the east crest of the spur upon which Lieutenant A. is posted, while the men in Birch Copse line the edge of the wood opposed to the attack. The latter are, however, soon forced to leave the copse, one of their number being wounded: they fall back and take the former place of the sergeant's party at the re-entrant.

Lieutenant A. has now concluded his reconnaissance of the enemy's column, and gives the order to retire just as Red appears about to make a frontal attack from the town.

The corporal's party is first withdrawn, from Long Wood, under cover of the fire of the men already fallen back. The sergeant's party then retires on Rainham Wood, a few files making a stand for a moment at the entrance until the party has passed down the road to the river, which the patrol now endeavours to cross as quickly as possible.

On reaching the nearest piquet, after passing through the Blue line of sentries, Lieutenant A. writes and sends on by a mounted orderly the following report:

	From . . .	<i>Lieutenant A., commanding patrol.</i>
	Place . . .	<i>Yatton Hill.</i>
No. 2.	To . . .	<i>Officer commanding outposts.</i>
	At . . .	<i>Churton Hill.</i>
	Despatched	6h. 30m. A.M. 3.8.77.

*'A column of the enemy's infantry, 900 strong, with a battery of artillery, has arrived at Glenfield. Their advanced-guard has already occupied Rainham Hill, from which I have just retired.*

*A., Lieutenant.*

*Red.*—Lieutenant C having driven the files out of Birch Copse, has still to deal with the sergeant's party of some 20 men, posted behind the crest of the spur of the hill facing him.

He advances some of his men into Moor Copse, which is immediately to his left front, in order to come to close quarters. At the same time the right of his line keeps up a fire upon the enemy in Long Wood. At last, perceiving that he is much stronger than Blue, Lieutenant C. pushes his attack home. He is supported by a frontal advance from the town, and the enemy retires into Rainham Wood.

Seeing the large extent of the wood Lieutenant C. hesitates to follow Blue into it, but Captain B. coming up to take possession of the heights with the rest of the advanced-guard, prepares to occupy the wood with proper precautions, and to follow up the enemy in order to discover his real strength.

The main column of Red crosses the stream at Glenfield Bridge and halts outside the town.

## OBSERVATIONS.

We have seen that the delay caused by Blue having taken up an obstructive position on Rainham Hill, has enabled Lieutenant A. to complete his reconnaissance of Red. To carry out this he is clearly justified in fighting, but the moment his object is accomplished he very properly gives the order to retire. The following are the notes made by Lieutenant A. during the reconnaissance, upon which he has based report No. 2 sent on from Yatton Hill.

1. The head of the main column under observation having reached Five Roads Cross, and the mist clearing off, infantry in fours are seen leading the way, followed by artillery in column of route, infantry again bringing up the rear.

2. It is presently evident that the artillery train consists of 12 carriages, probably therefore a battery with ammunition wagons.

3. The column takes  $7\frac{1}{2}$  minutes to pass the cross roads, *i.e.*, that time elapses by Lieutenant A.'s watch, from the moment the head of the column reaches the cross roads, to the moment the rear of the column arrives at the same point.

From these data the calculation is thus made:

		yards
Length of the whole column . . . .	$88 \times 7 + \frac{88}{2}$	= 660
Less 20 per cent. for opening out . . . .	$\frac{660}{5}$	= 130
Say, . . . . .		<u>530</u>

This gives the depth of the column at correct distances, from which must be subtracted the depth of the battery of artillery with wagons, and two intervals of distance between artillery and infantry,  $28\frac{1}{2} + 224 + 28\frac{1}{2}$  . . . = 280

Leaving, say, . . . . . 250

This gives the depth of the infantry alone, in column of fours.

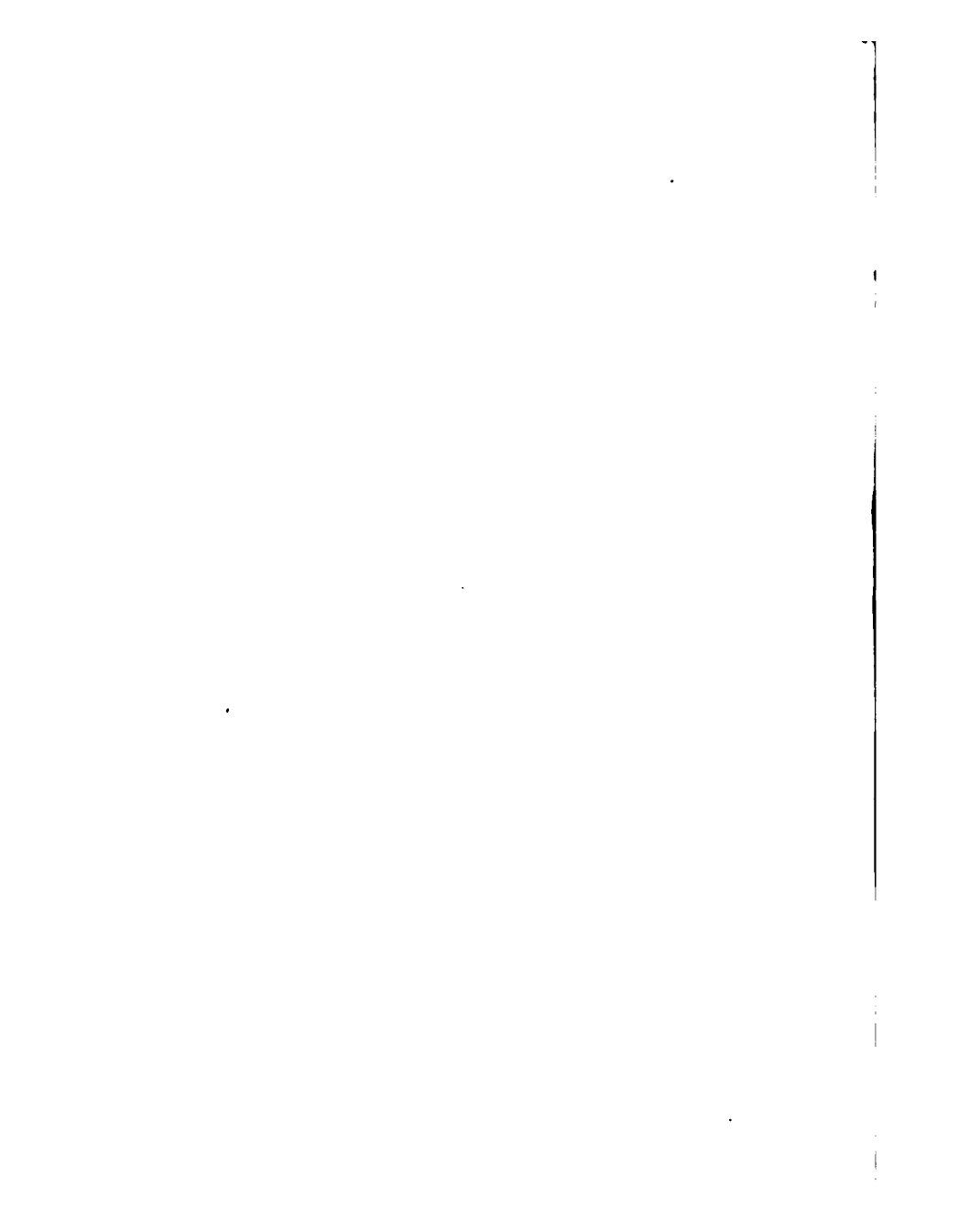
But the depth of a column of infantry in fours is equal to its frontage in line two deep, and its frontage in line in yards multiplied by 3 gives the actual number of men,

hence . . . . .  $250 \times 3 = 750$  <sup>men</sup>  
or the strength of the main column of infantry.

To this must be added the advanced-guard, probably  $\frac{1}{5}$  of the whole, and therefore  $\frac{1}{5}$  of the main column  $\frac{750}{5} = 150$

Total . . . . . 900

Thus the strength of the whole force is approximately, and probably very correctly, estimated, at 900 infantry and 6 guns.



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## CHAPTER VII.

RECONNOITRING (*continued*).

## CAVALRY PATROLS.

*Cavalry patrols* are worked on very much the same general principles which guide those of infantry ; but the distances over which they can pass, and the intervals of frontage in their formations, are of course much greater. The system of detaching groups of scouts from a patrol, if of sufficient strength to furnish them, is moreover peculiar to the cavalry service.

The most intelligent soldiers and the best horses should be chosen for patrol duty. The horses should be spared as much as possible and be fed on every opportunity. As a general rule white or gray horses, or those much given to neighing, should not be employed on this service.

The strength of a patrol will depend upon the duties it is to perform and upon the nature of the country in which it is to act. The men of an ordinary patrol move generally with swords drawn or lances at the trail. Those at the extreme point or flank, and all the men of a secret patrol, when in the vicinity of the enemy, should have their carbines or pistols drawn, loaded, and at the advance.

The men of a small patrol should generally ride one behind, and not as a rule alongside, one another, and be at such distances and intervals apart as to see and support each other, without being so close as to endanger all being cut off or shot down in the event of the party falling into an ambuscade.

Whenever the patrol is strong enough it should detach to its front a reconnoitrer to act as a point, and another man to bring up the rear of the party. Flankers are sent out according to numbers and requirements.

The ordinary formations on the march, of a patrol of three to five men, are shown in Figs. 1 to 8, Plate XIV.

If the strength allows of it the point may consist of two men and the flankers may be double. It should be accepted as a principle that half the entire strength ought always to be left with the main body of the patrol, whenever it is possible to do so, but with very small parties it is difficult to adhere to this rule. In the case of patrols of the strength of eight men and upwards it can generally be followed.

When searching for the enemy the intervals would be considerable with a view to an extended area of observation, but, when the enemy is touched upon, the front may be contracted. The distances should, on the other hand, be much the same in either case, and always such as to render it probable, that, if the party is suddenly attacked or surprised, some of the men may at all events escape with information.

The probable formations for patrols of eight men and upwards are shown in Figs. 9 to 14, Plate XIV.

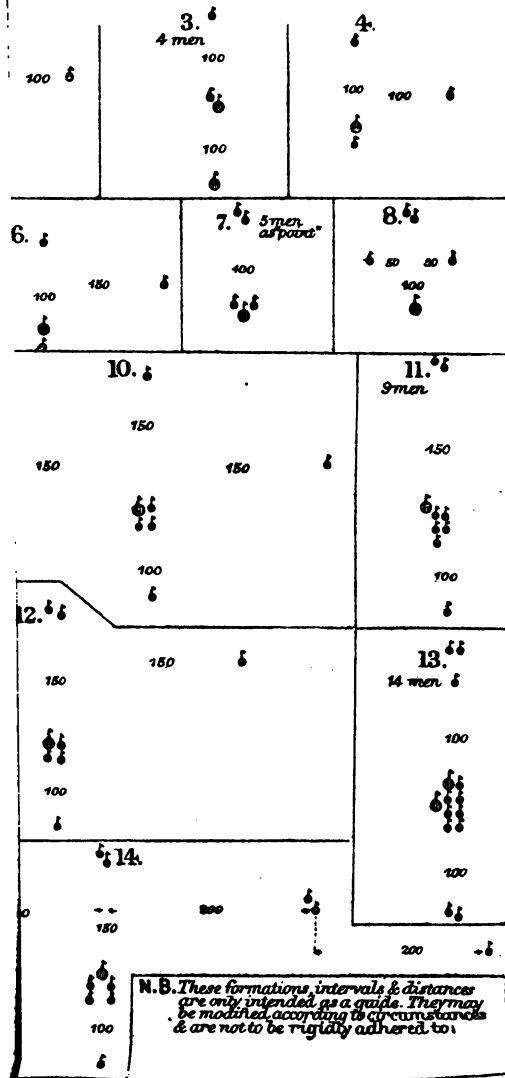
In the last of these figures the mode of disposing the flankers, when the strength of the patrol allows of more than one group on each flank, is attempted to be shown. The figure is necessarily geometrical; but the idea intended to be conveyed, is, that they should be echeloned back from the front according as the ground admits of their use.

The power of controlling the movements of the groups of flankers in the foregoing cases, where the nature of the reconnaissance and of the ground is presumed to require somewhat rigid formations, always rests with the commander, even though they are beyond hearing distance, and sometimes concealed from view by the accidents of ground.

The flankers nearest the leading file, move on his right and left rear, at distances depending much upon the ground and varying accordingly, but, not, under any circumstances,

# Cavalry Patrols.

*Intervals and distances in yards.*



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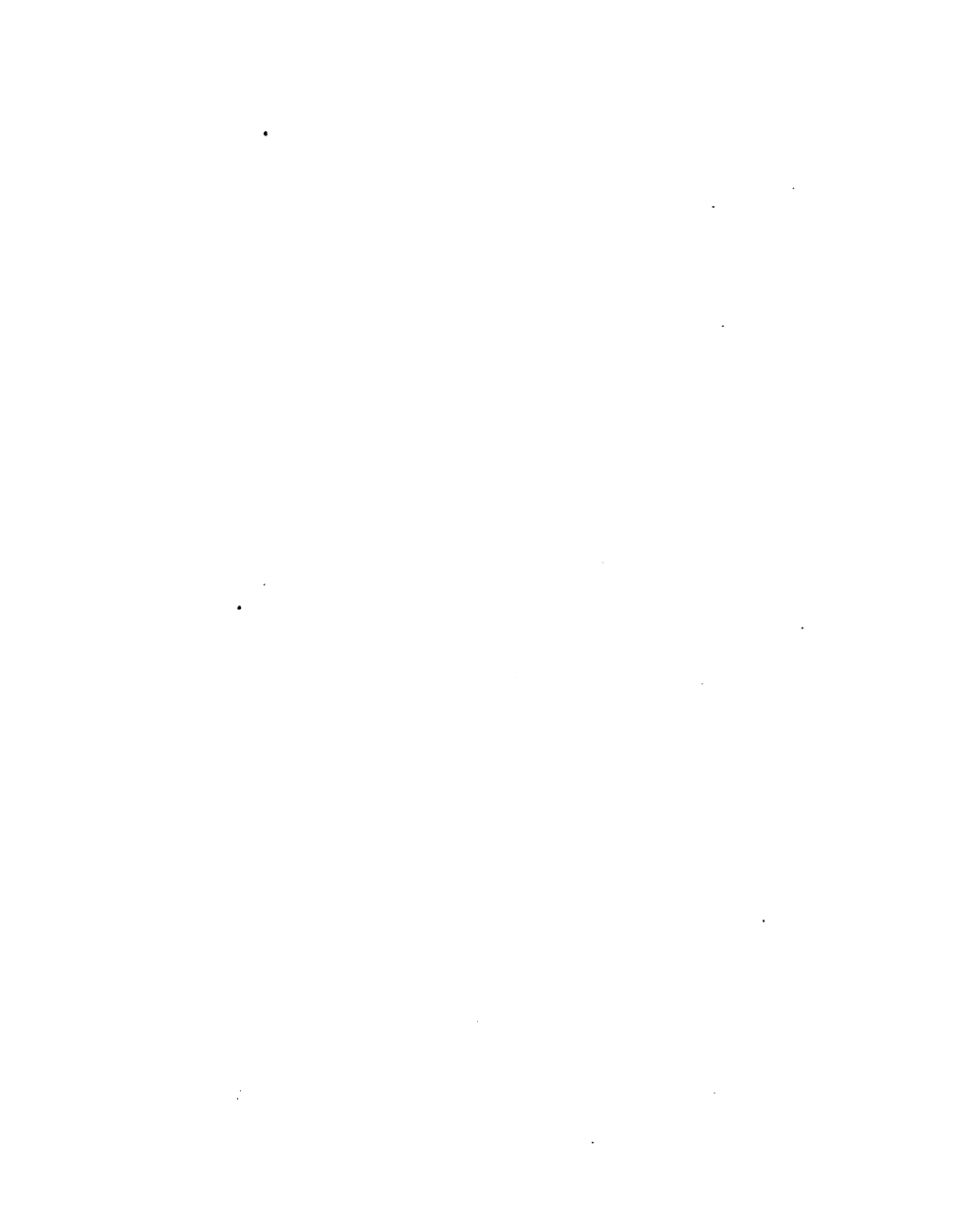
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beyond easy reach of the patrol, or beyond clear view of the motions or signals of the leading file.

The echeloned outer flankers, if there are any, are disposed at such distances and intervals as may enable them to conform to the movements of the inner flankers, and thus to preserve to the commander of the patrol the power of directing the whole, or of receiving instant notice of danger from either extreme flank.

The leading file must not be so far advanced, that the commander cannot communicate his orders to the point by concerted signal of some kind. A signal by modified sound may be here admissible, although to communicate direct with the flankers by such means would be objectionable and often impossible.

The commander having signalled to the leading file to halt, advance, or retire, the flankers conform to the movement. Should it be necessary to close in the patrol the leading file must be halted, the commander riding up to the front followed by the rear file. The attention of the flankers being directed to the leading file by the halt, they perceive the closing movement and conform to it, the pace to which they observe the commander and his rear-guard press their horses being a guide to themselves if speed is required.

When closing in, the flankers must endeavour to conceal themselves as much as possible under natural cover.

The commander can now either retire, advance, or again extend the patrol according as may be desired.

Should anything suspicious be seen on a flank while extended, the reconnoitrer observing it immediately halts; the leading file, or the commander, whoever first has his eye on the flanker, then halts the rest of the patrol.

If the flanker, after a moment's observation, is satisfied, he moves on, and the patrol again advances; but, if not, he signals for reinforcement and the commander rides up to him to assist in his reconnaissance. During this time the halted patrol remains on the alert, each man as much under cover as possible, and those within sight watching the commander and the flanker. The commander on examination may wish to



send out scouts ; the flanker signals again for reinforcement, and two men come up rapidly from the main body or from the other flank. The scouts being sent out with special instructions, and clear directions where they are to rejoin, the patrol may again advance.

With regard to the signals which should be used, those laid down for infantry would answer equally well for cavalry, except in one particular, and it is evidently of some importance that the two arms when acting together should make use of concerted signals which could be mutually understood. The exception alluded to is the motion of removing the headdress from the head for the purpose of holding it up or waving it for reinforcement, or of raising it on the sword or rifle held perpendicularly, to indicate no enemy in sight.

It is not always convenient for a cavalry man to remove his headdress, and a mounted reconnoitrer being already some distance from the ground, his presence would often be disclosed to the enemy, when he might otherwise have remained concealed, by the act of raising his helmet on a sword. Nor does the movement appear to be in any way indispensable, as the signals can be equally well given without as with the headdress.

The signals for cavalry reconnoiters might therefore stand thus :

To advance . . .	A wave of the hand or sword in the required direction.
To ask for reinforcement . . .	Headdress, or hand without the headdress, held up over the head and waved with a circular motion.
No enemy in sight .	Carbine, or sword, with or without headdress, held up perpendicularly.
Enemy in sight .	Carbine or sword held up horizontally.
Enemy in very small bodies . . .	Carbine or sword held up steadily.

Enemy in strong		
bodies . . .		Carbine or sword lowered and raised.
Halt in rear . . .		Hand held up steadily above either shoulder.

As with infantry patrols, also, the limited use of the whistle, as a means of attracting attention, or even of signalling in dark or dull weather, would much assist the working of cavalry patrols.

It must not, however, be supposed that signalling of any kind to an unnecessary extent is here advocated. All signalling on patrolling duties must be carried out under difficulties. At the moment of first observing that the enemy is close at hand, a reconnoitrer's best chance of remaining unseen is to keep perfectly quiet and motionless. He cannot therefore signal without betraying his presence. Should he remain, under such circumstances, halted, and evidently in observation, the commander of the patrol, without any signal, should ride up cautiously to his assistance, keeping well under cover during the move.

By such careful observance of the rule that signals should only be employed by secret reconnoitrers when they can be made without fear of attracting the enemy's attention, there is little doubt that they may be of great assistance in sparing the horses, and in facilitating the general object to be attained by a cavalry patrol.

Before leaving this subject we must refer to the signals, laid down for use in our cavalry service, for vedettes, which might occasionally be available for the communications from one group of scouts to another.

These signals are only applicable to ground which will admit of a mounted man cantering round in a small circle so as to be seen by the person to whom he is making signal. If the enemy's cavalry is approaching, the soldier circles to the right; if he sees the enemy's infantry, he circles to the left. For a mixed force he describes the figure of eight, and the faster the pace at which he circles the greater is supposed to be the force of the enemy and the more rapid his advance.

Such signals can be seen a long way off, and have therefore some advantage in that respect, but they are not so generally suitable, for evident reasons, to the service of reconnoitring, as the modified infantry code above recommended.

Cavalry patrols of the strength of four men and upwards may send out scouts as reconnoiters on detached duty. These scouts are not bound to the patrol as regards their movements in the same manner as the leaders and flankers above alluded to. On the contrary, they work freely in advance or on the flanks as may be directed, the closeness of connection maintained varying with the nature of the service upon which the patrol is employed. The scouts detached from the point, or from the flanking groups of the advanced party of an advanced-guard, are kept much nearer to their supporting body, and to each other, than are the scouts of detached patrols upon other reconnoitring duty.

In the former case, the intervals between the groups of scouts should not be more than the limit of seeing distance by day, and of hearing distance by night, with due regard of course to any special circumstances of weather or of ground—as for instance in very close country where the scouts, having to advance by separate roads, cannot keep each other continuously in sight.

In the latter case, the scouts of a detached reconnoitring patrol may work more independently, keeping up connection with their main body by touching upon it at fixed places, or by one of a group riding in, with information, to the general route previously determined upon for the advance of the patrol.

Detached scouts should almost always be sent in pairs, one of the two men in command. There may be occasions where circumstances render it difficult to observe this rule, in which case one man may be detached as a reconnoitring scout; but it is far better they should be in groups of two, so that one may continue to observe the enemy, while the other takes back information of his having been seen.

The scouts and detached men of a patrol should march with their fire-arms drawn, loaded, and at the advance, as

laid down for a small patrol. They should not, however, give signal by firing unless there is no other method open of conveying back the information, and they are certain they have been seen by the enemy. If surprised, or if it is necessary to give instant notice of the enemy's proximity, they should immediately fire.

The main body of the patrol would usually march with swords drawn or lances at the trail. It is generally better for patrols not to return by the road they took in marching out : by varying the route they will go over new ground, thus collecting more intelligence, and will also be less likely to fall into an ambushade arranged for their homeward march.

The cavalry patrol must adapt its mode of reconnaissance to the nature of the locality or ground in much the same manner as the infantry patrol. The student should therefore read over the suggestions already offered, for conducting the operations of the latter under various conditions, and consider how far they apply to the case of a mounted patrol. In order to assist him in noting some distinctive differences, we will take the case of the cavalry point of an advanced-guard, and observe how it would act under various circumstances as the leading patrol of a column of troops.

#### MOVEMENTS OF A SMALL CAVALRY PATROL.

The patrol, or point, in this case, consists of a non-commissioned officer as commander, and four men, two of whom are detached 100 yards to the front of the group as advanced scouts. The scouts march one on each side of the road but not quite abreast of each other, if the country is close, and one behind the other some yards apart, if the country is open. The other men march with the commander on the main road in a confined country, and more or less separated from him to either flank if the country is open.

*General examination of ground.*—The advanced scouts, and the flankers also when detached, must carefully search every spot on their route which might conceal an enemy.

When they come to a corner or turn they must pull up their horses, and cautiously look round it, before riding on. If they cannot examine a place by themselves on account of its extent, they should either signal for reinforcement from the rear, or one man should ride back for it, while the others remain concealed till his return.

*Approaching high ground, whether on the route or near it.*—One of the scouts should ride up the high ground, if it is possible to do so, in advance of the other scout, who falls a little to the rear. The commander continuing to advance, moves up towards the scouts, the remainder of the party halting. The leading scout reconnoitres from behind the crest of the hill, keeping himself, as much as possible, out of sight from the front. If he observes anything suspicious, he beckons to the man behind him to come up, and sends him back to the commander with the information ; or else the commander himself may ride up and consult, while the second scout falls back on to the road, keeping the others in full view and ready to transmit any signal to the rear.

*Encountering obstacles on the route.*—Should the point meet any obstructions on the main route, such as temporary barricades, trees felled across the road, or carriages overturned, the commander must endeavour to make his way round so that the party may reconnoitre. He should at once send a man back for assistance, unless the obstruction is so very slight that half of his party can remove it while the others keep guard and look out. If a bridge is found to be broken, word should be sent to the rear, and the point must endeavour to find a ford or other place of passage in the immediate vicinity.

*At a defile.*—Should the sides of the defile be easy to mount, the flankers will ride up to reconnoitre before the leading scouts enter. Then the latter trot through at a smart pace, one in advance of the other, followed at a little distance by the commander.

If the sides of the defile are not accessible for a mounted flanker but would yet afford a good look-out if they could be scaled, one of the men may dismount while another holds

his horse. The advanced scouts must not ride through till the flanker returns and again mounts. The pace should then be quickened to make up for the delay.

If the sides cannot be climbed the point must trot rapidly through the defile man by man at distances of 100 yards. On reaching the far side the commander must take up a position to defend the entrance until the next party in rear appears.

If the defile is of any extent the examination of the heights on either side would be undertaken by the flanking parties in rear, and the point would in such case ride at a trot through the defile in the ordinary order of march on receiving the signal to advance.

*At a wood.*—If the wood is small and traversed by a path or road, the advanced scouts rapidly examine the borders on the near side, and, if nothing is seen to indicate the presence of an enemy, at once trot through the wood. The commander remains outside waiting for a signal from the scouts. When these reach the far side of the wood they halt and observe carefully from the border, before debouching or allowing themselves to be seen. They then communicate with the flankers who have been riding round the outside of the wood, and signal is passed to the rear.

If there is no path the same mode of examination can only be followed when the trees are thinly planted, without undergrowth, so that mounted men can ride through them. In such case the advanced scouts would go right through the centre of the wood, the flankers riding round the borders, the commander in rear of the latter.

If the wood is very large it will be difficult for a party of five men to search it thoroughly. All that they could do, without delaying the column, would be, after first examining the borders on the near side, to ride quickly up all the paths in two groups, looking out sharply for signs of the enemy's presence, and listening for the tread of troops on the march, sending back report at the same time that further search is necessary. A party coming up from the rear could then examine the wood, on somewhat similar

principles to those suggested for an infantry patrol under like conditions.

Thus, if the trees allow of mounted men passing freely between them, the patrol might extend across the whole or a portion of the width of the wood and go right through it. Or else a space of fifty yards to each side of a main route through the wood might be so examined, a leading group preceding the extended party of the patrol, and flanking groups being pushed up every road or path, or even through the wood itself, to either flank, as required.

Should the wood be without paths and so thick that a mounted man cannot enter it, the point must content itself with examining the borders. If anything suspicious be seen a portion of the party may dismount and make further search.

*Approaching habitations or a village or town.*—The scouts in front should make a preliminary reconnaissance, and if they see no signs of the enemy, they should ride up to the first house and make inquiries. While in this close vicinity to habitations two men must never separate; if one man has to go into a house the other holding his horse remains at the entrance. The first man should not get beyond communicating distance by voice from his comrade. One of the inhabitants may perhaps be detained by the scouts till the other men come up. The place may then be examined in detail if the answers to inquiries are satisfactory. Should no preliminary intelligence be obtained the two advanced scouts should gallop past the houses one after the other and then return to say what they have seen.

Should the place be a village of some extent, greater precaution must be taken, and, while the advanced scouts endeavour to obtain information, reconnoitring groups should be sent up from the advanced party to examine the flanks and outskirts of the town. The leading scouts then ride rapidly through the main street one after the other, looking out for signs of an enemy or for any hostile demonstration of the inhabitants. They have their firearms ready to give instant signal if required.

The commander of the point remains at the entrance of *the village*, till the scouts come back or signal that it is clear

of danger. Should the enemy be present in the village in any strength and not retire on appearance of the scouts, the point must fall back at once on the advanced party.

Should the place be large it will take more men to examine it, and the point should wait until the advanced party or support comes up before entering the town.

In approaching an inhabited place by night the point of cavalry should take the precautions laid down for an infantry patrol under similar circumstances.

#### RECONNOITRING AND SCOUTING DUTIES OF PATROLS.

A reconnoitring patrol of cavalry should in general avoid fighting if it can possibly do so. To send back correct information of the enemy's force and dispositions is a much greater gain than to defeat a hostile patrol, and force should only be resorted to, under ordinary conditions, when all other means have failed for effecting a retreat.

There may be cases, however, where a line of patrols covering their front with scouts are required to hold their position in advance of other troops, or to drive in the enemy's line of scouts to prevent his attempts at reconnoissance.

In such instances special orders would be issued as to the application of force, unless a general instruction be given to hang on to the enemy and continue to observe him whether he retires or not. The patrols would in the latter case be bound to hold their position until driven back by greater numbers, and, while keeping all patrols of equal strength in check, they should compel the weaker ones to retire before them, some of their scouts meanwhile endeavouring to gain information by working round the flanks.

If within hearing of the main body of troops, the same rules for firing to give the alarm on being seen by the enemy hold good for cavalry as for infantry patrols. If a patrol cannot escape as a body or cut its way through, the commander may give the word to disperse, so that, at all events, some one of the party may get off with information. Should there be no necessity for immediate report, it may



sometimes be allowable to retreat in the opposite direction, and return by a detour under cover of darkness.

Should a hostile force be met with, the patrol must not imagine it has done its duty by falling back to make report. If the patrol is a secret one it should keep concealed, and hang on to the enemy, watching, observing, following, and keeping up the touch with him, while sending report of his presence by messenger to the rear. If the enemy perceives the patrol and presses it, the special aptitude of cavalry for this duty enables the men to scatter, again to collect and touch upon him, and to continue to hover about him in observation, until finally the patrol is relieved in its watch or the enemy retires altogether.

If the patrol is of greater force, it may have received instructions to push home its reconnaissance on meeting the enemy, and to obtain information by more demonstrative action.

In any case, it is only when the enemy is first touched upon, that the real work of cavalry patrolling may be said to have commenced: the results to be obtained therefrom assuming their highest value and importance from this time.

#### SPECIAL DUTIES OF THE COMMANDER OF A SMALL CAVALRY PATROL.

The commander of a cavalry patrol has much the same responsibility as the commander of an infantry patrol, and his duties are for the most part similar. The student will, notwithstanding, do well to inquire into many distinctive details incidental to the mounted service.

Before starting the commander should see well to his horses, and ascertain that they are all fit for the march, and that none of their shoes are loose. The swords of his men must be securely hooked up, and prevented from rattling and banging about. No loose tins or other articles that could make a noise when in motion should be allowed. Shining surfaces should be dulled or smeared with mud.

The commander having received and understood his *orders*, should communicate them in such distinct manner to

the men that each one of them could carry on the duty of the patrol in case of part of them being taken, or in the event of the patrol having to disperse. The commander also names a place of rendezvous, for the men to meet at, in case of their becoming separated.

The patrol then marches off, the commander, when clear of the bivouac, taking the precautions shown in the various formations we have alluded to, according to the strength of his party, the features of the country, and the nature of the duty upon which he is detached.

When the patrol is a small one, of the secret nature, the more rigid formations must be preserved in the advance, and the same care and caution exhibited in reconnoitring, as we have prescribed for the infantry patrol. The commander must, however, in addition take care that he never allows his men to enter upon ground that is unsuited for the movement of horses, and he must not forget that a cavalry soldier suddenly finding an insurmountable obstacle barring his only means of retreat, is securely caught in a trap. A mounted man should therefore not be permitted to enter an enclosure that has not a free passage through it, unless a comrade remains at the entrance to preserve for him means of retreat. Nor should he go inside a wood, unless it is thinly planted so as to allow of horses passing between the trees in every direction.

A strongly developed sense of locality is even more necessary for the commander of a cavalry, than for the leader of an infantry, patrol, because the distances over which the former has to travel are greater. The commander should therefore have a good eye for ground, be able to read a map and to find his way about by it, and also understand marching by the compass.

The commander must never forget the object he has in view, that of obtaining information of the enemy, and no means must be left untried to collect intelligence. Should the party not touch on the enemy he must make the most diligent inquiries wherever he can, as to when they were seen, in what strength, and with what kind of troops. How long they halted, and in what condition they were at the time. What they did while they were halted, what road they took on leav-

ing, whether they took guides with them, and if so whether these have since come back again. Post Office and other officials, clergymen, shop-keepers, hotel-keepers, and hawkers will generally possess the best information. Children should also be questioned, since they will probably tell what they know.

The commander must carefully select his main route and adhere to it, should his patrol be strong enough to send out detached men or scouts, taking care as regards the latter that he does not uselessly fritter away his men. He must also see that the scouts sent out distinctly understand how they are to keep up their touch with him, and where they are to rejoin him. Nothing can be more disconcerting to the commander of a patrol than to miss his scouts at the time or place at which they should come in. He does not know whether they have lost their way, or whether they have fallen into hostile hands, and his further action is often dependent upon their reports, which he does not receive. The position also of scouts who have lost their way, or who have not hit off their party at the place of rendezvous, is one of difficulty. In the attempt to find their commander they constantly wander about in an aimless manner, and end by losing themselves altogether.

Unless the scouts have been previously well drilled and practised in this respect, the commander will have a difficult task. It is by no means easy for the scouts of a cavalry patrol, especially in a new and unknown country, to work in such an independent manner, as to cover sufficient ground and procure information from a large enough circle, and yet to preserve such cohesion with the main body, as will ensure the result of their investigations being promptly conveyed to the proper quarter. Nothing but constant and steady practice of patrolling in time of peace, can ensure the cavalry soldier being prepared to perform his part efficiently in this respect in time of war.

When the commander finds it necessary to halt for the purpose of feeding or watering the horses, he must be careful to select a lonely and isolated spot, where he can easily guard against surprise by vedettes or look-out men. He must never halt near inhabited places, least of all in the

immediate vicinity of an inn or house of refreshment. In no case must men be separated from their horses.

A cavalry patrol at night must place more reliance upon its ears than upon its eyes; the commander should therefore often halt for the purpose of listening, one man occasionally dismounting and placing his ear on the ground. The horses themselves are an assistance at night, in giving the earliest notice to their riders of anything unusual occurring, or of the presence or near approach of men or other horses. The vision and hearing of a horse being much superior to that of a human being, the commander should impress upon his men the necessity for quick attention to the slightest warning from this quarter at night.

It is sometimes necessary to bring in a prisoner for the purpose of obtaining exact information. The commander would in such case have received special instructions to endeavour to cut off some of the men of a small patrol of the enemy, or else to pierce the outpost line secretly between two posts so as to carry off one of the vedettes, or generally to hover about the enemy until the object in view can be effected.

Should the commander have been instructed to follow the enemy and to keep a watch upon his movements in retreat, he should also have been distinctly informed how far he is to go in pursuit. He should be careful not to exceed this limit whatever it may be, and he must take especial care not to be surprised or cut off. With this view he should act in every respect as a secret patrol.

If the patrol is intended to preserve connection or communication between portions of troops which are in action or on the march, the commander should keep his party in an intermediate position, detaching flankers to retain the touch with the troops on either side. The position and movements of the troops on one flank are immediately reported to the other flank by means of the connecting patrol, and unity of action is thus maintained.

In making their reports on return or in transmitting them from the front, cavalry commanders of patrols are guided by

the same rules as in the infantry service ; but the distances passed over are much greater in the case of the cavalry patrol, and the duration of the duty generally longer, than with the infantry patrol, so that in the former service there is more frequent occasion than in the latter to send back reports from the front by messenger.

SCREENING AND RECONNOITRING DUTIES OF CAVALRY IN  
ADVANCE OF THE ARMY.

The duties of the detached cavalry reconnoitring in advance of the army, are conducted, so far as elementary details are concerned, in accordance with the principles above discussed under the head of Patrols, but some distinctive features of this special service require further remark.

When an enemy is at a distance and his movements are unknown, he is often more to be feared than when close at hand and under observation. He must not therefore be lost sight of because he is some way off ; but on the contrary he must be watched, in such a manner as to observe his movements closely with a view to estimating his designs, and at the same time to prevent his attempts at reconnaissance with like intentions.

A fatal mistake is too often made by cavalry, in supposing that it is sufficient to reconnoitre the enemy and return with a report, or even to reconnoitre in a certain direction and report that no enemy is seen.\* It is not only necessary to find the enemy, but, when found, to keep him under constant observation.

For this purpose detached bodies of cavalry should be advanced to the front of an army, interposing between their own troops and the enemy a veil or screen, behind which there is immunity from surprise, and in the extreme front of which feelers or reconnoitrers are actively employed, collecting intelligence for transmission to the rear.

These duties would be either performed by the 'divi-

\* This habit of the French cavalry led to many surprises of the *other arms* being made by the Germans in 1870.

sional cavalry' or by the 'cavalry division,' according as the operations are on a small or on a large scale. By the former is meant the cavalry attached to a division. If several divisions are acting together, the cavalry of each would cover the immediate head of its own column on the march, reconnoitre the country to its front and flanks, and link the column to others; just as in action it would fight on the flanks of its own division, crown its success or cover its retreat. By the latter is meant the division or brigade of cavalry, which is an independent tactical body, having relations to the whole army of a similar nature to those borne by the divisional cavalry to its own division. It therefore furnishes the advanced cavalry for screening and reconnoitring duties, when several columns are moving forward in combination. Should a division or smaller column of the three arms be acting by itself, a portion of its cavalry would generally be detached to the extreme front for a similar purpose.

A force of considerable strength is usually employed on this important service. The principle adopted is that of retaining a support in rear, from which smaller parties are detached to the front and to the flanks, these parties in their turn sending out still smaller fractions, until the whole assumes the form of an open fan, upon the outer edge of which the patrols are reduced to a strength of some eight to ten men, which in their turn may be covered in extreme advance by groups of scouts of two or three men together. This action of the cavalry may perhaps be best appreciated by its being described as a moving outpost chain.

A regiment of cavalry may thus be sent out to a distance, varying, according to circumstances, from ten miles to one or two days' march, in advance of the army it serves to cover. One squadron moves still farther to the front, one to each flank, while the remaining squadron acts as a reserve to the others.

Each of the three squadrons now in extreme advance sends out patrols to its front and flanks, as required by the nature of the ground and supposed position of the enemy. A support, consisting of from one-third to one-half of the squadron, remains in each case in rear, moving along a central route.

The patrols in their turn detach scouts so that every part of the ground may be thoroughly examined.

The distances to which the advanced squadrons should proceed from the squadron in reserve, and also the intervals to be preserved between the squadrons in advance, must depend so much upon the nature of the country and upon the position of the enemy, that it would be hard to frame any absolute rule on the subject.

It is, however, suggested in the Regulations that, while the advance should be extended as much as possible in order to avoid employing too many men upon the service, care should invariably be taken that all the bodies in front be able to fall back securely upon their supports, in case of the enemy being met in force. It is recommended, that the distance to which each patrol may detach itself from its immediate support be restricted to four or five miles, or as much ground as can be passed over in one hour in ordinary country. On occasion, however, a patrol may be despatched on independent service for much longer distances, relying entirely upon its own resources.

We have seen the manner in which a patrol should be conducted under ordinary circumstances, and we have therefore only now to remark that the connection between advanced scouts cannot be closely kept up in working the patrols of the advanced cavalry. It frequently becomes necessary for scouts to be sent to considerable distances from their supporting body; but each group, though out of sight and hearing of the next, should always know the general position of the groups on either flank of its own patrol, and of the squadron from which the patrol is detached.

#### CONNECTING POSTS.

In proportion as a reconnaissance is pushed farther to the front the necessity for maintaining some system of constant communication with the rear becomes more apparent.

It must be regarded as a first essential condition, that the intelligence procured by a reconnoitring party be transmitted at once to its main body. It is also needful that a detached patrol should be in a position to receive orders from the

rear as quickly as possible. Hence arises the necessity for connecting posts, when reconnaissance is being carried on at some distance in advance of the main body.

The posts are placed on the main routes, generally at positions which can be found easily, such as bridges or remarkable or well-known buildings, and they are established by each advanced party as it proceeds to the front.

The posts should be about two or three miles apart, or the distance which an orderly could, in case of necessity, pass over at a gallop without pulling up.

A post should not consist of less than three men, one of whom must always be ready to mount at an instant's warning, whenever a messenger is seen approaching, for the purpose of carrying on the despatch to the next post.

The orderly who brings in a message returns to his post after a short rest, and takes back with him any orders for the advanced party.

The pace at which an orderly should ride, the exact place, and hour of despatch, should be written on the outside of the message.

#### STRONG RECONNOITRING PARTIES.

A strong reconnoitring party would be detached, either from the main body, or from the reserve of the advanced covering detachments, i.e. from the reserve of the advanced-guard on the march, or from the reserve of the outposts at the halt.

The commander would receive before starting the most precise instructions as to the object to be effected. He might be ordered, for instance, to search for the position taken up by the enemy, and to ascertain the numbers of his troops by such indications as may come under observation without disclosing his own proximity; or he might be directed to feel for the enemy in a particular quarter until he should hit upon him. Or else he might be directed to report on the resources of the country, the facilities and obstacles it presents for advance, and the general lines of communication.

Strong reconnoitring parties may push their reconnaissance far beyond the zone of the smaller reconnoitring patrols. They are generally ordered out by the general or brigadier, their force and composition depending much on the nature of



their mission and of the country, and on the necessity or non-necessity of concealing the march of the party.

A troop of cavalry is often sent on such a duty, a staff officer accompanying the force. If the country is close, hilly, and wooded, infantry may be selected in preference, a few mounted men being attached as orderlies ; but more usually still in a varied country, infantry is joined to cavalry as its support. The infantry would accompany the cavalry to certain points, past which the horse must fall back in retiring. These points the infantry would hold to secure the retreat of the cavalry, which latter would then advance rapidly to the front to complete the reconnaissance. The cavalry in its turn would cover the retreat of the infantry across any open ground.

The addition of infantry gives to such reconnoitring parties a strength and power of resistance which cavalry can never attain by itself. The employment of artillery tends towards a similar end, and the especial mobility of horse-artillery renders it most appropriate for such service. Artillery is nevertheless seldom added to an ordinary reconnoitring party, its use being generally confined to a reconnaissance in force, or to a special reconnaissance.

But although guns are not much employed upon this kind of duty, there may still be occasions where artillery would prove a useful addition to the other arms, as, by its assistance, woods or other suspicious places, within range, could be effectively examined or cleared of the enemy's presence, without the necessity of a close approach. Guns can also cause the withdrawal of parties of the enemy from small defensive positions by acting on their flank.

Whenever the several arms are combined in a strong reconnoitring party, cavalry is always well to the front in the advance, so long as the ground permits. The infantry in rear takes up successive positions favourable for defence, as it advances, so that if at any moment the cavalry is driven back it will be protected in its retreat by the infantry.

In the return march the infantry takes the lead, unless hardly pressed in a close country, when the cavalry is sent on in front.

## EXERCISE VII.

SMALL CAVALRY PATROL, AND POINT OF INFANTRY  
ADVANCED-GUARD.

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IDEA.\*

1. A cavalry patrol (Blue), corporal and four men, is sent over Totley Bridge to reconnoitre and examine Pawley Village.
2. The leading group of infantry advanced-guard (Red), coming up from Wolverton, has orders to push on and occupy Pawley.

## FIRST STAGE.

*Blue.*—The leading file has reached the west corner of Magpie Wood and halts. The left flanker has reached the east corner of the wood and halts. The right flanker is to the right rear. The corporal has halted on the hollow road behind summit of the hill, keeping his leading file in view. The rear file supports the corporal at 100 yards distance. (Fig. 1, Plate XV.)

*Red.*—The leading group of infantry advanced-guard, sergeant and four men, has reached the high ground south of Pawley Village, between the Wolverton Road and Pawley House grounds. One man is detached 200 yards to the front as a scout, to observe the village from behind a mound near the crest of the hill. The scout taking advantage of the ground reaches his position unobserved, and obtains a good view to the front. The remainder of the group halt. (Fig. 1, Plate XV.)

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.

## SECOND STAGE.

*Blue.*—The leading file summons the corporal to consult, the rear file moving up to the corporal's place. The corporal then gallops along the north side of the wood to the left flanker, and returns to the leading file. From neither point of view is anything observed to indicate the enemy.

Both reconnoiters and the corporal, while observing, keep themselves concealed as far as possible behind the corners of the wood.

The corporal decides to send two of his men through the village. (Fig. 2, Plate XV.)

*Red.*—Despite the precautions of the cavalry, the presence of the leading reconnoitrer at the west corner of the wood is noted by the infantry scout, who is himself concealed by the ground. He summons the sergeant to consult. The latter, on coming up, catches sight for an instant of the other reconnoitrer east of the wood. Inference therefrom: as the enemy is reconnoitring the village, he does not already hold the village.

The sergeant determines to push into Pawley, unobserved if possible, and to hold the north entrance to the village, signalling to the rear for reinforcements to hurry up. (Fig. 2, Plate XV.)

## THIRD STAGE.

*Blue.*—The corporal calls in his right flanker to act as support to the leading file, who is directed to ride at a smart trot, 200 yards in advance of his support, down the road and through the main street of the village.

Should any signs of the enemy be observed, he is to signal by firing his carbine, and to retire with all celerity. Should the village be unoccupied by the enemy, all possible information to be procured.

The corporal remains at the west corner of the wood, left flanker and rear file as before. (Fig. 3, Plate XV.)

*Red.*—The man sent forward as scout, is left in the same position as a look-out sentry. The sergeant signalling to his party to advance up the road, joins them, under cover of a hedge, and, sending back one man with a message to the rear, succeeds, by a cautious advance, in establishing himself at the far entrance to

Small Cavalry patrol  
and point of Infantry  
advanced guard.

North  
File.

Fig. 1.  
First Stage



Fig. 2.  
Second Stage



Fig. 3.  
Third Stage



Fig. 4.  
Fourth Stage



## EXERCISE VIII.

## A CAVALRY PATROL ON ADVANCED RECONNOITRING DUTY.

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IDEA.\*

A regiment of cavalry (Red) of four squadrons, part of the advanced cavalry of a force coming from the south, is disposed thus :

- 1st squadron advancing by Bittern to Danmoor ;
- 2nd squadron advancing by Erley and Minton to East Enton ;
- 3rd squadron advancing by Wolverton and Baddeley to Weston ;
- 4th squadron following in support through Erley.

The detached squadrons are to scout for the enemy (Blue), who has been reported to be in the neighbourhood of Northam.

Of these the 2nd squadron covers its front by advanced patrols :

1. A right patrol, of an officer, a sergeant, and 12 men, to cross the river at Sutton, and reconnoitre the left bank of the East Tarbor, communicating with the left patrol of the first squadron ;
2. A centre patrol, of a sergeant, a corporal, and 10 men, to examine the ground about Minton and Glenfield Common ;
3. A left patrol, of a sergeant, a corporal, and 12 men, to cross the Tarbor by the Great Marlow Road and keep up the touch with the right patrol of the third squadron.

The remainder of the second squadron follows its advanced patrols by the Erley-Minton Road, disposed into a support and a reserve.

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, and is also printed in the margin of the six-inch Minor War Game map.

## MOVEMENTS OF THE CENTRE PATROL (RED).

The patrol under Sergeant D. arrives at Minton at 8 A.M., having first reconnoitred the town by advanced scouts and ascertained that it contains none of the enemy.

Inquiries made at the inns and post office, and of the local authorities, afford no clue to the whereabouts of the Blue patrols, but a hawker from Pawley states that that village was visited shortly after daybreak by some horse soldiers. He does not know whether they remained there or not.

On receipt of this information, the sergeant details a left scouting group, of three men under the corporal, to reconnoitre Pawley, advancing by Heath Hill and Drayton Hill. Should the village be occupied by Blue, signal is to be immediately made from Drayton Hill to Sergeant D.'s party at South End Bridge. If no signal is made, the patrol will proceed on to Drayton Farm, where the corporal is to report proceedings.

A right group of scouts, two men, is at the same time sent over Minton Bridge, to recross by Rushton Bridge and reconnoitre Ripley Heath and Woods, communicating if possible at Ripley Bridge with the right patrol of the squadron. Thence to Stanton Bridge, till signal is received from Yatton Hill that the left flank is safe. The scouts are then to advance as an independent group, and to examine the west bank of the East Tarbor River, also Windmill and Gorsham Hills, rejoining the patrol at Garrads Cross.

The detached groups having left Minton at 8.20 A.M., Sergeant D. with the remaining five men of the patrol advances over Heath Hill to South End Farm, which he examines. He then sends two flankers round by Stanton Bridge, to establish communication with the right group; they are to rejoin the patrol on Yatton Hill. Sergeant D. proceeds to South End Bridge with the other three men, waiting there a few minutes for signal from Drayton Hill. None being received, he advances up Drayton Bottom to Drayton Farm, which he searches with two of his men, while the other man rides up the road towards Yatton Wood to establish communication with the right flank. The farm is quite deserted, and all the barns present appearance of having been recently emptied.

The corporal now rides in from Pawley and reports it to be clear of the enemy, but that a foraging party of 30 dragoons (Blue) left the village about 8 A.M. for Glenfield, having

previously pressed several carts and requisitioned corn and other supplies with some violence.

The corporal is ordered to take his scouts over Totley Bridge, to reconnoitre Cleveley Park, and the extreme left flank as far as Chorley Farm and the high ground above it, rejoining the patrol at Garrads Cross.

Signal is also transmitted to the right flank by the scout on Yatton Hill, to the effect that the advance may be continued, and Sergeant D. proceeds to cross the river by Yatton Bridge. He previously details two flankers to cross by Winsley Bridge and reconnoitre the west of Rainham Wood. His former flankers rejoin him on Yatton Hill, after passing signal to the right group of scouts at Stanton Bridge.

After passing the bridge Sergeant D. detaches one of his men to ride rapidly round the east side of the wood, he himself following the other two up the centre road. In traversing the wood, the two men as well as the sergeant preserve distances of about 100 yards between each other, till the farther edge of the wood is reached.

On gaining the plateau the leading man crosses to the crest and reconnoitres Glenfield, keeping well out of sight of observers from the town. He perceives Blue cavalry, with carts, on the march, tailing out of the town in the direction of Garrads Cross.

The sergeant coming up, gives orders to all the men, as they join him, to keep well concealed behind the copses. He sends two of them to the extreme end of the spur to the east of the main road, with instructions to watch the Blue cavalry until they have crossed the stream. These men conceal themselves at the eastern edge of Birch Copse, whence they obtain a clear view of the common from Glenfield to Garrads Cross.

The scouts composing the right group, having carried out the instructions they received to reconnoitre the East River, and to communicate with the right patrol of the squadron upon the other bank, have ridden up to Gorsham Hill, and are about to descend to the common, when the leading man perceives Blue cavalry on its way to Garrads Cross Bridge. The scouts instantly conceal themselves behind one of the copses on the crest of the hill, in order to watch the enemy. Having observed him for a moment, one of the men is about to ride in to the patrol with the information, when he catches sight of some of the sergeant's party on Rainham Hill, and perceives that they are also observing the enemy from the plateau.

The scouts under the corporal do not come across any

trace of the enemy on the left flank. From the hill above Chorley Farm they perceive the Blue cavalry in the distance moving away over Garrads Bridge, but leave it to be watched by the scouts of the other flank. The party breathe and water their horses at Chorley Farm, before proceeding across the common to rejoin the patrol.

Sergeant D. and his party keep close, till the enemy is well on his road and has crossed Garrads Bridge. Glenfield is then cautiously entered and inquiries are made.

The enemy is afterwards followed stealthily by the Red patrol to Garrads Cross. He leaves Garrads Cross after a few minutes' delay, by the Northam Road. His horses are jaded and he is not looking out for an attack. He is, however, too strong to engage, and, keeping his party well together, does not afford any opportunity of a prisoner being secured to give information.

The Red patrol and both its flanking groups arrive at Garrads Cross about the same time. The sergeant now sends one of his men as an orderly to the rear with the following report:

From . . . *Sergeant D., commanding patrol.*  
 Place . . . *Garrads Cross.*  
 No. 1. To . . . *Captain E., commanding squadron.*  
 At . . . *Minton, or the Minton Road.*  
 Despatched 9h. 20m. A.M. 20.7.77.

*'No enemy now south of Glenfield Common. We have tracked foraging party (30 dragoons) from Pawley. They have left this by Northam Road at slow pace. Seven wagons of corn with them. We follow them up.*

*'D., Sergeant.'*

This report is delivered to Captain E. on the march with the reserve of the squadron, one mile south of Minton, at 9.32 A.M.

The movements, thus described, are shown in Plate XVI.

#### OBSERVATIONS.

In this Exercise it will be remarked, that so long as it remains doubtful whether the enemy is or is not at Pawley, the touch is rigidly preserved from the left to right of the patrol, in order that, if Blue is present, information may immediately be transmitted to the patrols on the east bank of the East Tarbor River. As soon as it is known that the enemy has crossed to the north of the Tarbor, the detached groups on the flanks advance in independent reconnaissance. Should they not touch



on the enemy, they are to rendezvous at Garrads Cross. They would then either rejoin the patrol, or be again detached with fresh instructions.

The Exercise might with advantage be extended, by the student considering whether Captain E. could reasonably expect to overtake and capture the foraging party before it reaches Northam, should he desire to do so for the purpose of securing prisoners or of seizing the forage escorted by the Blue cavalry. If he immediately despatched a party to reinforce Sergeant D., the distance which it would have to pass over, and the point on the main Northam Road at which it would overtake the Red patrol, can easily be determined by aid of compasses and time-table. The reinforcing party would start from a point one mile south of Minton at 9.32 A.M. and proceed at about 8 miles an hour. The Red patrol following up Blue cavalry would have left Garrads Cross at 9.25 A.M., advancing at about  $3\frac{1}{2}$  miles per hour; just sufficient pace to keep the convoy in sight.

At these relative speeds, points of departure, and hours of starting, the place where the reinforcement would catch up the patrol can easily be found; and it could then be seen whether, or not, the convoy would have too nearly reached its main body at Northam, to render an attack upon it prudent or advisable. The distance from Garrads Cross to Northam is about  $4\frac{1}{2}$  miles.

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## CHAPTER VIII.

## ATTACK AND DEFENCE OF INFANTRY.

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TACTICAL EMPLOYMENT OF INFANTRY IN ACTION.

It has already been shown that infantry must fight in dispersed order when opposed to the fire of modern artillery and small arms, which render old shoulder-to-shoulder formations obsolete in scientific warfare; the military student will therefore do well to inquire into the details of modern infantry combat, as soon as he has mastered its leading principles. He will thus be led to recognise the fact that precision and steadiness of execution, in the movements of this arm, are more than ever a necessity, on account of the dispersion and isolation of individuals in the extended line, and of the substitution of groups or company columns under many separate leaders, for the battalion or brigade columns formerly employed.

So far, in fact, from the new order of things allowing of looseness, as might at first be supposed, it must be conceded, that the steady work of the drill sergeant in preliminary training is now more than ever of value to the infantry soldier. His exercises in musketry which teach him to use his weapon with skill and to the best advantage are also indispensably necessary. But where the instruction afforded to the soldier by the drill ground and rifle range ends, his tactical education for infantry combat should commence.

To exercise the drilled soldier in all the minutest details of the probable phases of attack and defence is undoubtedly, with other tactical training, the duty of the company officer ;

and this will sooner or later be fully acknowledged in our service as it already is in Continental armies.

Whoever may be entrusted with the individual instruction of the soldier, it cannot be too carefully carried out and completed, in order to accustom each man not only to act in group or company, but even alone and unsupported, when occasion demands it.

The general end of all fighting, so far as the infantry soldier is concerned, is either to drive the enemy from a position, in order to occupy it himself, or else to prevent the enemy from seizing a position which he, the soldier, already occupies.

An effective fire must be the earliest means employed by the assailant in the one case, or by the defender in the other, to attain his object; but this fire is sure to be returned by his adversary, so that the combat becomes a simple duel, unless one side, while keeping up its own fire with best possible effect, can also prevent that of the enemy from inflicting injury in return.

The first essential is fulfilled when the soldier uses his weapon at distances which give him the best chances of hitting his mark; the second when he knows how to reap advantage from cover, and how to save himself from the effects of hostile fire by adroit movement when in open ground.

These leading principles of the art of infantry combat should be laid well to heart by the student, and form the basis of all instruction given to the soldier.

Every man should be taught to utilise to the fullest extent all kinds of cover that may be available, either in his advance or when he takes up a position of rest or defence. He should be instructed in the best manner of firing from behind cover, whether standing, kneeling, or lying down, according to circumstances. It is also of the greatest importance that he should be practised constantly in quitting cover, both for advance and retreat.

If sheltering behind a thick tree, the soldier should fire from the right side of it, resting his left elbow against the trunk which covers his body. If the tree is slight and does

not afford much protection, it must merely be used to steady the rifle. If he is firing from a window or through an opening or loophole of any kind, he should rest against the left side of it. When behind a bank or hasty parapet of earth, the rifle should be rested on the crest, the soldier standing, kneeling, or lying down behind it according to its height from the ground or trench. If firing from behind hedges, standing corn, or anything which only gives concealment from view, the soldier should if possible change his position immediately after discharging his rifle.

Should there be no cover the soldier may lie down to fire, placing himself flat on his belly with his elbows on the ground, the barrel of his rifle being steadied on a small mound of earth, two or three stones, or anything immediately available at the moment.

It is most desirable that ammunition should not be wasted during an engagement; it should therefore be impressed upon the men, before they are allowed to act independently, that not a single round should be expended without a fair prospect of its being effective. The following general rules are recommended to control the fire of the ordinary individual soldier when acting independently.\* Exceptions in favour of marksmen, or known skilled rifle shots, may sometimes be made with advantage.

<i>Objective.</i>	<i>Limit of range, for aimed fire.</i>
An enemy whose head only can be perceived . . . . .	Up to 200 yards only.
Men half hidden by cover . . . . .	Up to 400 yards only.

\* What is here meant is that soldiers must never be allowed to fire on their own responsibility, without fair prospect of effect, and that certain rules should be given to serve them as a guide when acting independently. But these would not necessarily hold good in combined action; thus, if extended infantry were attacking a position they would no doubt receive orders from their commander to open fire against it without regard to the exact nature of the mark presented by the defenders. Where ground also which cannot be seen requires to be brought under fire, or in other exceptional cases, the manner of sighting and firing the rifle must be ordered by the commander.

<i>Objective.</i>	<i>Limit of range, for aimed fire.</i>
Skirmishers, or infantry scouts, advancing or retiring . . .	Up to 500 yards only.
Extended infantry in the open, or single cavalry scouts . . .	Up to 600 yards only.
Groups, or troops in support . .	Up to 700 yards only.
Reserves, or a battery of artillery	Up to 800 yards only.
Masses of troops . . . . .	Up to 900 yards, some- times up to 1,000 yards.

The men should also be taught that the most common error in action is to fire too high. If the aim is too low the bullets may yet strike by ricochet, and at any rate make the enemy hesitate to come nearer, but if fired overhead they have rather a tendency to encourage the enemy and to cause him to quicken his advance.\*

The general conditions under which the soldier has to

\* The elevation given to a rifle causes the bullet to rise a certain height above the object aimed at, during its curved flight. The highest point of the trajectory above the line of sight, when the (Martini-Henry) rifle is sighted for 500 yards range, is only about 8 feet—say the height of a mounted man; if a low aim, therefore, be taken at an object supposed to be 500 yards distant, an error of 100 yards or so, in judging the range, will make little practical difference. But when the rifle is sighted for 1,000 yards, the highest point of the trajectory is nearly 45 feet; so that, if the distance of the object aimed at is 900 yards, instead of 1,000 yards as judged, the bullet will fly about 19 feet in vertical height over the mark, though striking the ground only 100 yards beyond it.

Hence, with perfect steadiness of firing, the shooting ought to be fully five times as good at 500 as at 1,000 yards, especially when distances are unknown. But, in actual service, the near approach of the enemy often causes an amount of unsteadiness sufficient to derange seriously the shooting of even the best marksmen.

These remarks apply to 'aimed fire,' but 'unaimed fire' also frequently causes heavy casualties to the enemy at ranges up to 2,000 yards, and annoys him extremely. Similar principles hold good for artillery, although the trajectory of the shell is very much flatter than that of the rifle bullet.

act in infantry combat, either alone, or in company with others, may be considered under three heads :

1. When approaching to attack an enemy who is more or less under cover.
2. When approaching to attack an enemy who advances to the encounter.
3. When awaiting behind cover the expected attack of an advancing enemy.

THE INFANTRY SOLDIER IN ATTACK AND DEFENCE,  
ALONE OR IN DETACHED GROUPS.

A soldier acting alone, when advancing against an enemy posted more or less under cover, should move rapidly from one shelter or obstacle to another ; without bending down or assuming a creeping attitude at the longer distances. The upright position at long ranges is practically as safe as the stooping posture, and better enables a man to keep his eye on the enemy, and also to select the best cover for himself as he advances. The rifle is carried at the trail, in the manner most convenient to the soldier. As he comes within effective range he opens fire, but always at the halt and from behind cover if any is to be had, slowly and deliberately at first, but more rapidly as he closes upon the enemy's position.

At the longer ranges of effective fire, that is from 800 to 500 yards, where the danger of being hit is not very great for a single man, he may allow himself to be clearly seen when crossing open spaces, for he can thus advance more rapidly, and with fewer halts, which are no advantage to him till he begins to fire.

In crossing the space which lies between 500 and 300 yards from the position cover becomes of great importance. The soldier should rush from one point of shelter to another at full speed, and if the ground is bare he must occasionally throw himself flat down, to take breath, and also to fire.



When he is nearer than 300 yards to the enemy he must select points of shelter close to one another, and either dash on from one to the other with a spurt, or creep or crawl up, according to circumstances. If there is plenty of cover the latter is the better method. The closer the soldier is to the enemy the more must he endeavour to group with his comrades behind each sheltered resting place, and the longer he should remain at each point, for the purpose of bringing a rapid and continuous fire to bear on his adversary, in preparation for the final rush which carries all before it.\*

A soldier detached to scout in front of a group, moving upon an enemy whose position is not quite known, should not at once double out to a fixed distance and post himself in observation. He should rather work gradually up to the front with due precaution, taking every advantage of the ground to conceal himself, and looking here, there, and everywhere, not only to try and get a sight of the enemy, but also to select good cover for the group to move up to, while he himself again advances to reconnoitre. The signals already mentioned for infantry can here be well applied by the scout, and 'the enemy in sight,' at once notified to the group in rear. The commander of the party can also make signals by sounds to the scout either to attract his attention or to direct him at once to halt or advance. The whistle is well suited for this purpose.

The advance of a small group, say for example four men, against an adversary in position, with the positive intention of attacking him, should be executed without that dispersion which is allowable in the case of a patrol of the same strength, approaching an enemy with a view to reconnaissance. The group should be extended for attack by files, with intervals of some four paces between the files, and

\* Under ordinary conditions the actual amount of fire delivered during the advance is less than would be imagined. In the course of some experimental firing which took place in India in 1877, it was found that troops advancing in extended order fired at the rate of less than one round per man per minute at ranges under 700 yards.

should advance from point to point, taking every advantage of cover until within firing distance. The rear rank men then come up into line with their front rank men, and the group advances in extended order as a fighting line, following the general rules laid down in the foregoing paragraphs.

Should the group be of a greater strength than four men, a portion of the party may follow in support until the group nears the enemy, when, taking advantage of a halt behind cover, they double up and reinforce the fighting line. If a scout is out in front, he should wait under cover on arriving near enough to the position to reconnoitre, and should join the fighting line in the final advance.

A soldier acting alone, whether separated from his comrades, or for other reason, and desiring to attack an enemy who advances to meet him, should endeavour to practise, as far as possible, similar principles of detail. He should seize the opportunity of firing from behind his own cover when his adversary shows himself in the act of advancing, and he should make his rush forward to the next cover at the instant that he sees the enemy about to halt, and in the act of looking out for shelter.

A group of men meeting under like conditions a group of equal strength, can only expect to obtain an advantage, by the exercise of better tactics in the advance, or by more skilful shooting. But if one of the groups has a support in rear, which, at the critical moment, brings it reinforcement, a victory will probably be thus secured to the stronger party. The weaker side may perhaps take advantage of a momentary halt under shelter to retire before the stronger group, the latter becoming aware of the movement by a cessation or reduction of fire on the part of its adversary. But should the weaker group take post with a view of making a stand, the stronger party would probably attack it. Having worked up as close to the enemy as circumstances will allow, the assailants would deliver a final volley and then advance to the assault with bayonets fixed. When within 30 or 40 yards they would quicken their pace to the charge if the defenders have not already given way. The stronger party might also

employ a portion of their support in making a flank attack, to combine with their direct advance upon the enemy.

A soldier posted behind cover to await the attack of an approaching enemy, should not open fire until his adversary comes well within effective range. He should take advantage of the latter becoming necessarily exposed in advancing from one point of shelter to another, in order to fire at him with best chance of success. But a soldier behind cover cannot reap the full advantage of his position, unless he carefully follows all the movements of his approaching enemy, never if possible losing sight of him. He must therefore clearly understand that, although he may conceal and protect himself by accidents of ground, the cover so obtained is only to be used as a means to an end, to enable him by its assistance the better to fight and overcome his adversary. This object cannot be attained by mere avoidance of the enemy's fire, and the soldier will never gain a victory by simply lying behind an obstacle. A habit of clinging to safe places would be worse for an army than any extent of rashness at all likely to be shown. Hence the soldier should be carefully instructed not only in the practice of using cover, but also of readily issuing from it at the proper moment. The most secure shelter must be changed without hesitation, to right, left, front, or rear, or abandoned altogether, in order to obtain some new advantage of position, or to follow the enemy's motions as he seeks to gain new shelter.

A man in position towards whom an enemy is advancing, must not omit to alter the sight of his rifle as the range becomes shortened.

Should the enemy retire, the chances of hitting him while in retreat are now much greater, for whether or not he maintains a running fight in falling back, he cannot help exposing himself more than in the advance, and he has moreover greater difficulty in selecting his points of shelter, and is necessarily slower in taking post behind them.

As the infantry soldier in position may not only be called upon to act against his own arm, but also against cavalry or artillery, a few remarks with reference to the two latter con-

ditions may be added to the above. In firing at single cavalry scouts, or at mounted officers, the soldier should endeavour, if they are at any distance, to aim at them when a side view of the horse is obtained. If they are close the horses should be aimed at when in motion, and the riders when at the halt or when in the act of turning their horses. Aim should always be taken at the horses of guns when artillery is in motion. When unlimbered, the men of the gun detachments should be fired at. When at long range, the moment of unlimbering or limbering up should be watched for, as then the men and horses all close to one another present a target of considerable dimensions.

A group of men behind cover must act in concert, and be guided by similar principles to the above. When the advancing enemy receives reinforcement into his fighting line, the defenders should increase the rapidity of their fire to the utmost, without allowing it to be less accurate, in order to counterbalance the enemy's accession of strength for attack, by a corresponding increase of fire-action on the part of the defence.

In addition to these details, the student should also note the manner in which an individual soldier or a group would maintain a running fight in retreat. Whether the retreat be forced or voluntary, it should always be conducted in good order. The soldier should fall back at a rapid pace from one point to another, turning to fire when under shelter, and then make further rushes to the rear in succession, until beyond range.

If three or four men are falling back together, two should first retire, a little scattered, and turn to fire from behind cover, while the others pass between them at a run to more distant shelter, whence they in their turn can open fire to distract the enemy's attention, and to protect the retreat still farther to the rear of their comrades. If cover does not exist, similar tactics should be followed by the men throwing themselves on the ground to rest, and maintaining the running fight by firing upon the enemy at each halt.

If attacked by cavalry in the open, an infantry soldier

should not shrink from the encounter, unless the numbers against him are overpowering, in which case, if suddenly overtaken, his best chance of escaping injury is to throw himself flat on the ground, his worst chance to run away. It should be impressed upon the men, that a single infantry soldier on broken ground, provided he remains calm and collected, has the advantage over a mounted man. The smallest group, back to back, can face cavalry with security, so long as they are cool and fire at the proper moment. If the soldier is attacked by a swordsman, he should try and keep on the left side of the mounted man. A blow on the side of a horse's head often renders it unmanageable, but if the soldier endeavours to bayonet his adversary's horse he should stab it in the flank, never in the chest.

The method of conducting the attack, defence, or retreat, of a larger group, say, for example, one consisting of ten or twelve men, may now be considered. In the attack a portion of the party would be retained in support, a convenient distance in rear. The support, extended by files at two or three paces interval, for the early movements, would join the fighting line at the critical moment of the advance, or be employed to turn the enemy's flank. Should the attacking party have to retire before the reinforcement of the fighting line has taken place, the support would cover the retreat of the latter by extending to rank entire, lying down under cover, and opening fire on the enemy, as soon as the front is cleared by the fighting line having passed to the rear. The fighting line would then take up a sheltered position to cover the retreat of the support.

In the defence, a party of ten or twelve men would keep its whole strength in the front or fighting line; but position should if possible be taken up in such manner, that two or three men would be under cover in a group together, at an interval of some ten yards or so from the next group. By this means the flanking groups would be able to distract the assailants, to a certain extent, by a cross fire. The disposition must, however, in all cases be so much influenced by the ground that no precise course of action can be dictated.

## GROUPING OF INFANTRY SOLDIERS.

In the foregoing pages much mention has been made of groups and of their leaders. The principle of working by groups, under various conditions of service, is clearly sanctioned by our Regulations, and too much stress cannot be laid upon its tactical importance. In well-trained infantry, an effective system of grouping cannot but tend to a good end. Not only should the comrades of a file act together in group in the extended line, but larger groups, subdivisions of the section, should be formed under leaders by the company officers. In addition to this, whenever during an action any men get separated from their own leaders, they should be taught to form in groups under the nearest non-commissioned officer or the oldest soldier, and even if two privates are alone together, one should take command. In the fighting line, small compact bodies here and there, according as cover enables them to collect, are of great value, forming good rallying points and adding solidity to the line. The men thus grouped should be under leadership, and fire volleys occasionally by word of command.

Not only will this system be advantageous in pure attack and defence, but it will insensibly conduce to the training of the group leaders, now so much needed for the various minor operations of war.\*

\* Readers interested in this question are referred to Von Arnim's *Extracts from an Infantry Captain's Journal* for many incidental details connected with the use of groups in the minor operations of modern war. These show clearly the advantages to be derived from thus training as sub-leaders all the non-commissioned officers, and a proportion of the rank and file. In Von Helvig's *Tactical Examples*, also, the frequent use of groups in infantry combat, more especially when combined with extended order in the fighting line, is constantly advocated. Von Helvig gives many interesting examples.

## FIRE DISCIPLINE.

Before passing on to the operations of larger bodies of infantry in attack or defence, a few remarks may be made on the subject of the strict discipline necessary for controlling and regulating the fire of men in action.\* It is clearly admitted that in all infantry combat an efficient fire is the only sure preparation for success. The employment of this fire must therefore be so regulated from the beginning, in accordance with the progress of the engagement, that it may gradually augment in power up to the final stage, when it should attain the fullest necessary development.

As the soldier, from the moment firing commences, must necessarily be left to himself, so far as the management of his rifle is concerned, it becomes of paramount importance to inculcate principles of strict discipline in the firing line, with a view to counteract the tendency to too much independence of action, which the dispersed order of the men might otherwise encourage. The habits of method and steadiness required can only be looked for in time of war by being steadily practised in time of peace.

Three golden rules for the soldier should be :

1. *Not to fire at all unless the order to commence firing has been given by his commander ;*
2. *Never to fire when in motion ;*
3. *To cease firing immediately when ordered by his commander.*

As regards the first rule, it should be explained to the men, that the order to commence fire, does not mean, that every man is to fire, whether he sees the enemy or not, but

\* Great attention is paid to this in the German and Austrian armies, and the French have also seen the necessity of instructing their men in these habits of discipline. The recent text-books of these services, which have been carefully consulted, give many valuable hints thereon.

merely that the enemy should be fired at by each man, or at long range by those men selected to fire, whenever he exposes himself sufficiently. The order to fire would be given to the men of a small group by the commander of the group, to the men of a section or company by the section or company officer. When acting in larger bodies it would often be given by the bugle sound. If a soldier is acting alone he must of course use his own judgment as to when he should commence to fire.

The second rule requires no explanation or qualification ; it should be absolute under all circumstances.\*

As regards the third rule, it is often of the highest tactical importance that the men should immediately cease firing on the order to that effect being given. Strict discipline on this point should therefore be inculcated.

The commander of a group or party should direct his special attention to the fire of his men, rather than to his own fire if he is armed with a rifle. He should make the group concentrate their fire on one point at a time, in preference to directing it indiscriminately over a wider area. He should cause the men not only to aim at such of the enemy as may be facing them, but also at those more on one side or the other, as oblique fire may often be directed, with great success, at an enemy placed behind cover which only conceals his immediate front.

The commander should take especial care that ammunition is not wasted in the early advance, so that at the decisive moment, when a heavy fire is required as a preparation for the assault, there may be no deficiency of cartridges in the fighting line.

At the longer effective ranges an *independent slow fire* is

\* Since this was written, in proof of the adage that there never yet was a rule without some exception, an eye-witness has related to the author the following instance which occurred at Lucknow. A party of twenty men, attacking sixty or more of the rebels with the bayonet, fired upon them from the hip while in the act of charging, at ten yards distance, thereby considerably reducing the numbers of the enemy before closing.



kept up, as may be directed by the commander. Those men who are not skilled shots should be carefully looked after when firing, and made to aim low. They should be ordered to fire at the largest groups or masses, while the better shots should be directed to pick off officers and advanced marksmen. The independent slow fire is maintained until within 300 to 200 yards of the enemy. To secure steadiness during the slow fire, it is a good plan for the commander of a group constantly to indicate the object to be fired at by named men, or by the whole party, with the number of rounds, thus, 'So and so, fire three rounds at the men near the white posts;' or, 'Every man fire two rounds at the gap in the hedge.' In all slow independent firing the men must adjust their sights to the required distance and then take careful aim at the object.

When the fighting line is being reinforced and the moment of assault approaches *rapid independent fire* will commence. This is always given at short range, and only lasts for a few minutes at a time, during which the hottest possible fire is kept up. Here the soldier only takes such aim as will ensure his bullet being directed straight to his front, and rather low than high. Rapidity of fire is the object to be attained, and six to nine shots a minute should be given by each man.

In the defence, rapid independent fire should be generally reserved for the critical period immediately preceding the assault, when the attacking line, having been reinforced to its full extent by the support, presents a good target for the defenders' bullets at short range.

*Volley firing* is always executed by word of command. In the case of small bodies of troops volleys may be fired by groups; in the case of greater force being engaged by sections or companies, or at the final stage by combined companies, half-battalions, or battalions. In the offensive the volley is employed as a means of dealing an effectual blow at a critical or decisive moment, more usually at short range. If the position is thickly crowded with defenders not well covered, volleys may be commenced at distances not exceeding 600

yards as an extreme limit, the men firing being in single rank, so that all can kneel or lie down. If the enemy is weak and half concealed by the ground, volleys would be ineffectual except at short distances. They are often decisive as an immediate prelude to the assault, and their general tendency is to steady and give confidence to the men by whom the volleys are delivered.

In the defence, volley firing is usually employed when the enemy is acting on open ground and has approached within short range ; also at the final stages, when the fighting line of the assailants has been reinforced by the main body, or as the preliminary to an offensive return.

It may be said in favour of the volley that its smoke disappears quickly, and only marks for an instant the position of the riflemen, while the smoke from a line of men firing independently hangs about them, and not only continuously betrays their position but soon impedes to a great extent their view of the enemy.

Independent fire owes its effect upon the enemy to a continuous rain of projectiles, accompanied by their demoralising whirr and whistle. From the assailant's point of view independent fire enables the soldier to derive most benefit from his skill as a rifleman ; but it is often difficult for a commander to make his men cease firing when necessary, and to keep them as completely in hand as they ought to be kept during this fire.

Volley firing owes its effect to a mass of projectiles pouring in upon the enemy at the same instant, and it has this advantage for the assailant, that the rapidity of the fire and the consumption of ammunition are more easily regulated by the commander ; consequently the direction of the fire and that of the men themselves may be said to rest with one and the same person.

We may add that, of the two, independent fire causes more loss to the enemy, although the expenditure of cartridges is out of all proportion greater, and that in view of the many more occasions upon which it can be employed than volley firing, the use of the latter must be looked on as the

exception and that of the former as the rule, in all infantry combat.

#### THE SECTION OF INFANTRY IN ATTACK AND DEFENCE.

The section of infantry or fourth part of a company may be looked upon as a fighting sub-unit, and will doubtless in future wars attain some importance in our organisation. At war strength it will consist of a sergeant, a corporal, and some twenty-five men, two or three of whom will hold lance-corporals' rank. The section will thus form a small complete body, not merely for administrative purposes, but fit for detached duty of various kinds, without altering its composition. It would be commanded on special duty by one of the company officers, and on ordinary occasions by its own sergeant. It should be accustomed to work by groups, under the leadership of the corporals and of two or more selected old soldiers.

The section in advancing to attack an enemy more or less under cover, should preserve the column of route formation until within about 800 yards of the position, in open ground. If the ground permits a small column to approach nearer under shelter, this distance would be reduced accordingly. When extension becomes necessary, the commander should form the leading half of his section into a fighting line, extended at such intervals between the files (probably from three to six paces) as may be suitable. The rear half of the section would follow as a support at from 50 to 100 yards distance from the fighting line, extended by files at convenient intervals should the ground be open, or formed in two or more groups moving abreast of each other, from one sheltered point to another, should there be plenty of cover available. The fighting line would send on a couple of scouts, skilled shots, in front of its flanks, if the exact position of the enemy is unknown, or if the ground to be passed over in the advance requires to be reconnoitred.

The commander marches in the immediate rear of the centre of the fighting line. He must use his discretion in

ordering the men of the fighting line to open out to greater intervals while crossing bare spaces, or to close up into groups in order to take advantage of accidents of ground when cover is of an intermittent character. Once under the effective fire of the enemy's line he may, if desirable, advance by rushes; the whole of the fighting line moving on at once, or one portion or group at a time, according to the ground. Each rush should be for about thirty yards, never if possible exceeding forty or fifty yards, and, before leaving cover to advance, the position or line to be taken up at the end of the move should be selected, and clearly indicated to the men. If there is no cover, the men should throw themselves flat down on arriving at the end of the prescribed distance. When good cover is found near to the enemy, the fighting line may remain some time behind it in order to bring a heavy fire to bear upon the position, in which case the arrival of the support at the same point of shelter becomes the signal for the fighting line to make a further rush to the front.

In uniting the support with the fighting line the commander must use his judgment, remembering that under ordinary circumstances it is better to delay the reinforcement until within such telling distance of the enemy, that a sudden increase to the fire-action of the assailants would have a decisive effect. This is the more necessary in the case of the attack by small bodies of infantry, as the support in such case is the only reinforcement possible, there being no reserve or main body kept in hand.

On the order to reinforce being given, say, as an approximate distance, at 200 yards from the enemy, the support would leave its place of shelter in rear, forming into rank entire as it does so, and join the fighting line, advancing by rushes until it passes over the distance which separates one from the other.

Rapid firing would be commenced by the fighting line as the support is in the act of joining, in order to cover the movement, and on the reinforcement being completed, the whole section being now in rank entire, under cover it

possible, a heavy fire should be kept up for two or three minutes, to be followed by one or two volleys, as may be ordered by the commander. If the enemy is not already demoralised by the augmented fire-action of the assailants, and a frontal attack is possible, the commander may then give the word to fix bayonets, and advance to the final charge and rout of the defenders. But should the fire of the defenders have told heavily on the assailants in the latter part of their advance, and the position be found too strong for a frontal attack, while a flank one is impossible, the commander must give the order to retire.

If the support is not yet merged in the fighting line, it should now extend in rank entire and open fire on the enemy, as the fighting line retreats through its rank. The fighting line will in its turn make a stand in rear of the support, but rather to one flank, so as to enable the latter to retire direct to its rear, or to fall back to the other flank as may seem best.

Should the fighting line have been already reinforced, the commander will order one half of the section to retire to a convenient distance in rear, a little to one flank; when this party has halted and taken up as good a position as it can, the other half will retire past it a little to the opposite flank, and get under cover. Each portion will endeavour to cover the retreat of the other, by keeping up as rapid a fire as possible upon the enemy during the operation. The line will thus retire by alternate portions.

Should the retreat as thus suggested be carried out successfully, the commander will then be free to decide whether he should abandon the attack altogether, or make a turning or flank movement in order to renew it under more favourable circumstances. But it must be admitted that the falling back of a section in anything like good order, if its support has been merged in the fighting line, and without a reserve or main body to cover the retreat, would be next to impossible. The want of a reserve would here be experienced in its fullest extent, and the only method of retreat open would probably be that recommended farther

on, in the case of a company under similar conditions,\* of every man running independently to the rear on a given signal, and all rallying to a point taken up by their leader behind the first favourable shelter.

Should the enemy have advanced to engage in the open, instead of awaiting under cover the attack of the section, the commander of the latter must be guided in his movements by the nature of the ground. If the country is at all close he must send out an advanced line of three or four scouts, skilled shots, to observe and telegraph back by signs the position and movements of the enemy, and to endeavour to pick off his scouts and marksmen. The scouts should also select favourable positions for groups of the fighting line to rush up to, sometimes themselves awaiting the arrival of the group in order to communicate what they have observed of the enemy's dispositions, and then doubling on again to the front.

The commander must endeavour to prevent his men from making a forward move at the same moment as the enemy, for by so doing they lose the advantage otherwise presented, of bringing their adversary under fire when exposed in the advance. When the enemy moves on they should be ready to use their rifles, and they should make their own rush to the front just as they perceive the enemy about to get under cover; they should be again under shelter, or else lying flat on the ground at their new position, before their opponent can take deliberate aim at them.

Should the section take post behind cover to await the attack of an approaching enemy, its dispositions would much depend upon the nature of the ground. The fighting line composed of about half the entire force should be distributed along the line of greatest natural strength, but in such a manner that it is not precluded from advancing at convenient points to make a counter-attack should circumstances require it. Should the position of the fighting line have command over the ground in its front, and there be some secure advanced points of shelter within easy range, they may be occupied by small groups from the fighting line.

\* Vile p. 202.

These groups, especially if advanced in front of the flanks, may bring a cross fire to bear on the assailant during the attack. As the enemy nears the position, they must fall back on the flanks of the fighting line. The support should be in rear, well under cover and quite close at hand, so as to be brought up as required to feed the fighting line.

The commander of the section in the defence has a great advantage in being able, before the attack commences, to estimate the distances carefully, and to fix the ranges of each marked point in the probable line of advance of his assailant. He should pay especial attention to his men when firing, so as to ensure their altering their sights in accordance with these observations, at each change of the enemy's position.

Should the ground be favourable, the party on the defence becomes undoubtedly superior to its adversary, numbers being equal, so that a frontal attack may be looked upon by the assailants as hopeless. But the attacking party may have greater force at command, or may under-estimate the strength of the defenders, in which case the latter may have to submit to direct assault. When the enemy has reinforced his fighting line and opens a rapid independent fire upon the position, the defenders should have every man in their fighting line and endeavour to check the advance by well-directed volleys. Should the commander decide that the attacking party is too strong for him, his retreat should be effected by echelons of groups from one flank, those that remain in position endeavouring by increased rapidity of independent fire to conceal the movement, until the first group retiring has taken up a good position in rear, a little to one flank, to cover the retreat of the remainder.

#### THE COMPANY OF INFANTRY IN ATTACK.

The company or fighting unit of infantry, of which the complete war establishment is given at page 16, will consist of upwards of a hundred men, divided into two half companies, and four sections.

In attack or defence, if acting independently, the company is of sufficient strength to be disposed in accordance with the

general rules for attack and defence formations laid down in our lately revised Regulations.

First as regards *the attack*. The position occupied by the enemy having been reconnoitred and discovered, and the ground to be passed over examined as far as can be at this stage, the company may be formed up as follows :

The fighting line, say one section ;

The support, say one section ;

The reserve, or main body, say half the company.

The section extended as a fighting line should be under the immediate command of its own sergeant. The general command of the fighting line and support would be given to the senior lieutenant. The reserve should be under the immediate command of the junior lieutenant. The company commander or captain preserves a general direction over the whole of the movements, which should be regulated by the orders he has previously communicated to his subordinates or by any subsequent orders transmitted during the progress of the engagement. The captain must, however, remember that once the leading sections are committed to action, fresh instructions are not only difficult to issue, but very liable to be misunderstood, or only carried out in part : nothing is more likely to confuse and demoralise junior officers leading troops, and the troops themselves, than a constant interference in details by the commander of the force. Considerable freedom of action should therefore be allowed to the leaders of the advanced line, care being taken that they thoroughly understand the object which the commander has in view, before engaging in its execution.

The duty of the fighting line will be to keep up a steady fire, as continuous as possible, upon the enemy, from the moment such fire becomes effective, until a final rush is made to carry the position. As the attack develops and the enemy is neared, the support must reinforce the fighting line in order to maintain this fire and prevent it slackening. The support must also be prepared to resist a flank attack upon the fighting line as it advances, and generally to give strength and confidence to the leading extended section.



The object to be attained by this mode of advance, is to bring up the attacking force with as little loss as possible, to a point sufficiently near to the enemy, from which the assault can be made.

The reserve follows the support in as compact formation as the ground will cover until within close range, when extended order, or extended order combined with groups, must be assumed.

By the time that the fighting line has arrived within about 200 yards of the enemy, the support has probably been all merged therein. The enemy must now be brought under the hottest possible fire (independent, combined with volleys) as a preliminary to the assault. If the commander determines to make a frontal attack, he reinforces with his reserve or a portion of it, fixes bayonets, and attempts to carry the position. The whole of the company advances in one line, until within charging distance, which should not generally exceed fifty yards, when the final rush, with bayonets down, would be made, if the enemy has not already broken and retired.

While beyond effective range the fighting line would advance in extended order by files, at from three to six paces interval, according to the extent of ground to be covered; on firing being ordered to commence, the rear rank moves up so as to form rank entire.

The fighting line would thus assume the form of a pliable chain, sometimes stretched tight, sometimes relaxed and conforming to the curves of the ground, but always connected. The density of the chain, however, would not necessarily be the same at all parts, for should there be cover at one portion and none at another, the files would be closer together, sometimes in groups, where shelter was available, and at greater intervals than usual in crossing the open spaces. The commander of the fighting line should take care that his men are brought up, with the least possible loss, to within effective range of the enemy, but as the position is neared he should also guard against any gaps being left in his line by too much seeking for cover. When only exposed to artillery fire at long ranges, the men should not retard their

advance by looking out for shelter, unless their commander gives special orders to that effect.

The fighting line would be preceded by a few scouts, skilled shots, in cases where their services in front would be of use as shown in a former page.

It would depend upon what is known of the proximity, strength, and position of the enemy, whether the whole or only a portion of the section told off for a fighting line should be at once extended in the advance. If any doubt should exist on these points, it would be better at first to throw forward a small portion only of the leading section, in very extended order. This thin chain would draw the enemy's fire as surely as a dense one, and it would be time enough to reinforce it to any required strength as the numbers and position of the enemy become revealed. The portion of the leading section not extended might follow a little in rear, marching by files or by groups as dictated by the ground, but always well in hand and ready to reinforce the extended line at a moment's notice.

The formation in which the support would advance, and its distance from the fighting line, must vary with the ground and be influenced by the nature of the enemy's fire. As a general rule it should conform to the movements of the fighting line, keeping in rear of the centre unless otherwise ordered during the preliminary advance. While out of effective range, column formation may be employed. If it appears desirable to watch both flanks, the support might march in two columns of fours, one in rear of each extreme flank of the fighting line. The general distance of the support from the fighting line at this stage would be from 100 to 150 yards in rear in open ground. As the support comes within effective range, or within about 700 yards of the position, its commander should cause it to extend into open order by files, or break it up into groups, unless the ground affords shelter from the enemy's fire when a farther advance may be continued in column formation. The distance of the support from the fighting line must be steadily decreased from this point, as the latter approaches the enemy.

The half company forming the reserve or main body should follow the support, in column of fours or sections, at a distance, in open ground while out of effective range, of from 200 to 300 yards. At 800 yards from the position, unless cover is available, the reserve must be broken up into groups or extended during its farther advance, being always, however, when the ground admits, preserved in compact formation and well in hand for the longest possible period. As the support nears the fighting line, the reserve must also decrease its distance from the front, so as to take the place of the support when the latter reinforces the fighting line. The frequent halts for purposes of shelter and slow firing made by the fighting line, enable the reserve to creep up without difficulty, so that when the two front lines are merged into one at a distance not exceeding 150 yards from the enemy, the reserve should be about 100 or 150 yards in rear of the fighting line. Here it should be kept well under cover, lying down, until required for the final reinforcements. At this stage, the reserve will probably be extended with files at one pace interval.

The post of the senior lieutenant in command of the leading sections will be somewhat in advance of the support, where he can best see to order up reinforcements to the fighting line as may be required. It is laid down in our Regulations\* that the support may be brought up in extended order to reinforce any part of the fighting line, and that as it is desirable to keep men of a file together, the men reinforcing should divide the interval between files on coming into line. The support also, it is said, may be used to prolong the fighting line by being brought up in whole or in part to either flank when required.

As regards the first of these instructions, the principle involved is of great importance, and it would even appear desirable to extend its operation farther, and not only to avoid separating the men of a file, necessarily comrades in action, when bringing up reinforcement, but also when possible to avoid interpolating the new men individually with those of

\* Vide 'Field Exercise for Infantry,' 1877. Part II., S. 24.

the first line, keeping them rather in formed bodies or groups to fill up gaps or intervals in the line.

Thus the method of prolonging the fighting line, given in the second instruction, above quoted, might be utilised in extending the principle inculcated in the first instruction, formed bodies of the support (extended or in groups according to circumstances) being not only brought up on the flanks, but also at any weak places in the line, where their reinforcement might be required. In this manner the men of the original fighting line would be kept more directly in hand, than if intermingled with fresh men all along the line. In the case of the support being of a different company from the fighting line, this method would be even more desirable than in the case under our consideration, for the whole line would be preserved in groups or sections of its own company, even if groups or sections of another company were wedged in at intervals. Each of the formed bodies thus kept together would remain under immediate direction of their own leaders, and fire volleys by word of command when required. It is not for a moment suggested, that the commander of the front sections should confine himself entirely to the mode here advocated of bringing up reinforcement, as circumstances might render the other method advisable. He should rather exercise his discretion, and follow either or both courses as the necessities of the case demand, giving the preference whenever possible to the method which groups the men under their own leaders.

Should a weak portion of the extended line require strengthening, the support or a portion of it may also sometimes be brought up in a formed body to the immediate rear of the front line, which is kneeling or lying down, and fire over it by volleys.\*

In strengthening the front line the officer in command of the leading sections should take care that no more rifles are

\* The Prussians in their peace manœuvres of the last two years have practised this mode of affording support without letting the men out of hand. If the support proved insufficient, the reserves were brought up and acted in a similar manner.

brought into it than can be used with effect ; and as a general consideration, in ordering up supports, he should bear in mind that the nearer the fighting line can advance to the point of attack without reinforcement, the greater the effect of such reinforcement when actually given.

The company commander will assume such position during the preliminary advance as may be most convenient, probably in rear of the support. At the final stage, should he decide upon a frontal attack, he will give the order for reinforcement by the reserve. The manner in which this should be effected must be determined by the circumstances, and our Regulations allow of the reserve being either brought up in rank entire in extended order,\* or in more compact formation at the discretion of the commander. The reinforcement by the reserve, it is presumed, will not be necessary until the fighting line has been reinforced in full by the support, and is still unable to push on within a hundred yards or so of the enemy's position.

Having considered these details of the mode of conducting a frontal attack, the student should now endeavour to apply the principles thus learnt, to the variations necessary when flank and frontal attacks are used in combination. This is the more requisite as it is the opinion of many authorities of the day, that pure frontal attacks cannot be made by infantry upon infantry in position, with any hope of success, unless the numbers of the assailants much exceed those of the defenders ; in the latter case also, under ordinary circumstances, a combined attack by flank and front will usually be better tactics.

When anything like equality of forces exists, a commander should endeavour to attack the flanks of his adversary, even though only by the smallest possible detachments. Not only should the original scheme for attack involve a portion of the support or reserve prolonging the line at a fixed time with a view to a flank attack, if the ground and position of the enemy favour such a movement, but, during the progress of the engagement, no opportunity should be lost by

\* F. Ex. Part III., S. 42.

section leaders of taking the enemy's line or part of it in flank, by small groups of men judiciously disposed.

At the final stage, too, when the reserve has been brought up close to the support, the company commander may see that a frontal attack would be unsuccessful, and that a prolongation to a flank may be made, under cover of the ground, by part of the main body, by which means the enemy may be successfully taken in flank, at the moment when his whole attention is absorbed by the frontal attack of the fighting line reinforced by the remainder of the reserve.

Not only must flank attacks be made wherever possible, but attacks made by the enemy on the flanks of the assailant must also be warded off. It is the special duty of the support, during the preliminary advance, to watch for these attacks, notice of which should be given by flanking scouts; the reserve must further take its share in resisting them, should the danger from this source be great. In such case the reserve might march on a dangerous flank if a central position appeared too distant for safety.

#### THE COMPANY IN RETREAT.

Should the commander at the commencement of the final stage see that a frontal attack must fail and that a flank attack is impossible, it will not yet be too late to retire, although such a movement can only be carried out with considerable loss. The reserve, if not already launched into the fighting line, will enable the latter to fall back under covering fire. The reserve itself, extended into single rank, may then retire by echelons of sections through the fighting line, each section firing a volley before its retreat. The fighting line, lying down or sheltered behind cover, must open a rapid fire as the reserve retires through its ranks. The commanders of sections should make every effort to retire in good order, and to take the whole of their men with them, at a rapid pace, a good distance to the rear, say fifty yards, at each retrograde move; checking any disposition on the part of the men to stop independently in rear of isolated points of shelter.

The great difficulty in retreats is to choose the exact and proper moment for retiring, for it should not be precipitated so long as a chance of success remains. On the other hand, should retreat be protracted too long, and the reserve be merged into the front line before the necessity for falling back is admitted, the retirement might easily become a rout, for a line retiring under fire without support at hand must almost inevitably fall into confusion. A writer of weight, Von Scherff, is of opinion that under such circumstances there is nothing for it but to let the men run, rallying them behind the most favourable points of shelter, if possible to a flank, and leaving the task of attacking to fresh troops if there are any; thus preserving for the moment a simply defensive position for those that have retired.\* A place suitable for assembly, in case of voluntary or forced retreat, might well be selected by the commander, and pointed out to his officers before commencing the attack.

The necessity for frequent practice, during peace, in the art of retreating, must be apparent to all, when we bear in mind that there is no manœuvre which Continental armies recognise as presenting more difficulty in time of war, and that English infantry have on more than one occasion appeared but indifferent performers when attempting to carry out this unpopular movement in presence of an enemy.

It will be seen by the foregoing notes, that the attack by a formed body of infantry, whose organisation is complete, presents to the consideration of the student five tactical stages. These are as follows :

1. Preliminary reconnaissance of the enemy, and of the ground.
2. Tactical disposition for attack of the enemy.
3. Advance to effective ranges, and opening of fire upon the enemy.

\* Also see Marshal Bugeaud who recommended, even before the days of breech-loaders, '*s'exercer à fuir méthodiquement quoiqu'en désordre, et à se réformer avec promptitude,*' to meet such cases as the above.

4. Greatest development of fire-action upon the enemy at telling distances, and flank attacks if any.

5. Occupation of the enemy's ground, or, retreat to previously chosen place of assembly.

#### THE COMPANY IN DEFENCE.

A company ordered to take up a position of *defence* would advance to its ground in the usual order of march, unless within reach of the enemy, when it would move in fighting order preceded by scouts. On drawing near the position (about 150 yards from it), the leading section is halted, and the scouts are reinforced so as to enable a complete reconnaissance to be made, by which the commander can learn, not only if the ground itself is clear of the enemy, but if there is any appearance of his presence in the immediate vicinity. This examination proving satisfactory, the leading section is marched up to the position, which it occupies from flank to flank, the men getting behind cover or lying down in temporary positions till the front line is finally fixed. The commander of the company having come up looks to the approaches, the flanks, and the best means of retreat, and then as quickly as possible decides upon the position for his fighting line. This may be composed (as an approximate strength) of one section, which is posted in a general line behind the most suitable cover from which the ground in front can be brought under fire. The men may be pretty close at the most likely points of attack, and farther apart where obstacles help to secure the front. A few well advanced posts may be occupied by groups, provided the ground is favourable, for the purpose of making the enemy develop his line of attack and general dispositions early in the affair. If no cover is to be had for the fighting line, the men must lie down, and in such case it would probably be necessary to provide some artificial shelter, should it be intended to resist an attack of the position. The support should be placed in as sheltered a position as possible in rear of the fighting line, and so close at hand that no difficulty may arise in reinforcing



the latter, as required, during the engagement. The reserve, which might consist of about half the company, should be placed in rear, centrally at first, but, as the enemy's attack is developed, it may be moved, either in whole, or in part, so as to be in the most favourable position, if mere passive resistance is intended, for quickly reinforcing the threatened part of the front line or for repelling a flank attack of the enemy, or else for the purpose of taking the offensive and delivering a counter-stroke upon the assailants at the proper moment.

The above is the general theory of the defence ; but so many variations of detail must occur under different conditions of ground, affecting not only the position of each portion of the force, but the proportion of men allotted to it, that rules can hardly be laid down for more definite guidance.

Two typical cases may, however, be considered.

*First case.*—The position taken up is along the crest of a line of hills with no natural cover beyond that afforded by the formation of the ground, which, though open, is undulating and irregular. Here the smallest possible number of men that will suffice to hold it, should in the first instance be put into the fighting line, which would be posted just behind the crest. The support should be unusually strong, and drawn up, in rear of the fighting line, upon the summit, sufficiently far back to be well covered by the crest, and yet close enough to replace losses rapidly in the fighting line, and also to reinforce it in full at the exact critical moment. This will probably be as the enemy commences to ascend the slopes immediately leading to the position, and comes within telling range. The reserve would be held compactly in hand, to the rear, and well under cover, probably on the reverse slope, if there is one, of the hill. It should be ready to move to any part of the line as the enemy's plan of attack is developed, or to repel or make local flank attacks as required.

The question of hasty entrenchment would probably come into consideration in such a case as the above, for the

simplest form of shelter trench would give great additional strength to a position of this character. The trenches should be traced so as to bring direct fire to bear upon every part of the front, no provision being made for flanking fire. If the crest or ridge has re-entering angles, the trenches would not be continued into them farther than may be necessary to bring under fire adjacent ground, which would otherwise, from the nature of the slopes, escape the defenders' bullets. If a re-entrant presents too wide a gap to be left undefended, a trench might be made across its head. The men of the fighting line being placed in the shelter trenches would now be no longer behind the crest, but rather at such a distance down the slope of the hill that they could see all the ground to their front.

The support would be drawn proportionately more forward, and might in such case even take the position just behind the crest, that would, without trenches, have been occupied by the fighting line. Should the formation of the ground not afford sufficient cover, the support might also be placed in trenches made upon the summit, with wide intervals between them, to allow of the fighting line retiring, in case of a retreat being ordered before the assault takes place.

Entrenching the position would not only favour its passive defence but enable more men to be available for counter-attack, as the fighting line could be held, under such conditions, with less force. As a general rule, the men of the fighting line should not take part in the counter-attack by advancing directly from their position, even when they see the enemy broken and hesitating in the assault. Steady and continuous fire-action is their business in the defence, while the offensive is taken by the reserve or main body, which in such a case as the present would probably amount to one-half of the whole strength. The counter-attack may be made either just before or immediately after the assault, whether the latter is successful or not. If delivered before the assault, the counter-attack would probably be made upon the enemy's flank in advance of the position. If delivered after

an unsuccessful assault, it would also be made in a similar manner. In either case the reserve would have been kept in readiness to move to the required flank of the defenders and attack therefrom. If delivered after an assault in which the enemy has pierced the line of defence, the counter-attack would be made by a portion of the main body kept in hand for the purpose, inside the line, and in rear of the position, when the enemy is in all the confusion attendant upon a successful attack. Should the main position be carried, the fighting line will do well to hold its ground to the last and cross bayonets with the assailants, as any attempt to retreat under fire during the final stage must result in annihilation. Should the fighting line engage at close quarters with the assailants, and the reserve be not all merged therein but a portion of it remain in hand, the scale may even now be turned by a counter-attack of the latter body ; especially if directed on the enemy's flank. Unless, however, this movement is entirely successful and the assailants are routed in their turn, the reserve will hardly do more than secure its own retreat, the fate of the fighting line of defenders being almost to a certainty sealed.

Should the enemy be repulsed before the assault commences, by a counter-attack, or by the direct fire-action of the defence, a portion of the reserve may pursue to ensure a full victory, but great caution must be exercised in order to avoid falling into an ambuscade, or being suddenly met by the enemy's reserves. The men should be kept well in hand in pursuit, and volley firing will, wherever practicable, be found more efficacious than independent firing upon the fugitives, and moreover tend to steady the men by the necessary concentration of command.

*Second case.*—The position taken up not only affords command of ground, but also presents along its general line strong natural cover, such as banks, fences, walls, &c., with obstacles in front to the advance of an enemy from which he cannot morever derive much benefit of shelter. Here, the fighting line should be held from the commencement, by sufficient men to check the assailants in their advance and to

meet a direct attack. The support should consist only of sufficient men to feed the fighting line, so far as casualties are concerned, and to keep it up to its full strength. About one-third of the whole force will be thus sufficient for the fighting line and its support. By this means the enemy will be held by a small portion of the force, while the larger one, about two-thirds of the whole, will constitute a main body or reserve to be held in readiness behind the most exposed flank, either to resist a flank attack of the enemy and push the repulse home to him, or else to originate a flanking movement upon the assailant as he becomes hampered with the obstacles in his advance, should he be rash enough to attempt a frontal attack. It is to be observed, as we have already said, that the obstacles are not such as to give protection to the assailant; were they so, a flank attack upon him under such circumstances would not be attempted.

This mode of giving the counter-stroke would probably be successful, having the advantage, common to all flank attacks in advance of the position, of not obliging the direct fire of the fighting line to be interrupted, with fair security that the fighting line, though weakened to the extreme limit, could hold its own against frontal attack during the operation, on account of the natural strength of the ground selected for the position.

The defenders may however, in this case, be taken by flank attack even though the front be strong, and the reserve must then endeavour to cover the retreat. If fortunate, it may enable the fighting line to fall back.

If, on the other hand, the counter-attack upon the assailant, in front of the position, has been successful, the reserve may, as in the former instance, follow it up in pursuit so far as prudence will allow.

In the defence, as in the attack of infantry, the student may subdivide the tactical operations, presented to his consideration, into five stages :

1. Occupation of the position or ground by the defenders.
2. Preliminary resistance by fighting line to the enemy's advance.

3. Dispositions to resist main attack of the enemy, as soon as developed.
4. Resistance to main attack ; resistance to flank attack ; counter-attack upon the enemy.
5. Repulse of assault, and pursuit of enemy ; or, retreat from the position or ground.

#### THE BATTALION IN ATTACK AND DEFENCE.

The student will now be able to apply the foregoing principles of detail to the attack and defence of a battalion of infantry, the general principles for which are clearly laid down in the Revised Field Exercise of 1877.

The frontage of a battalion is calculated, in *attack formation*, on the supposition that thirty inches are necessary for each file, the whole battalion being deployed in two ranks, with an addition of one company interval of five yards.

The frontage of an eight company battalion, of 100 men each company, would therefore be calculated thus :

One company would take about forty-two yards, hence the total front would be  $42 \times 8 + 5 = 341$  yards. Subtracting from this the interval of five yards, it will be seen, that each half of the total front to be covered during the attack will be about 168 yards. If two companies are ordered to be extended to form the fighting line, each of them would therefore have to be opened out at four paces, which means that intervals of three paces would be between every two files. If each company is ordered to extend, in the first instance, only half a company or section, the same front would have to be covered as by the whole company, and the extension would be, in such case, at eight paces or at sixteen paces.

Two companies would form the supports, which would follow the leading companies at a distance of from 150 yards to 200 yards in open ground, or even farther to the rear should the enemy not be close at hand. The fighting line and supports would be under the general command of a field officer, but each company under the immediate command

of its own captain. The remaining companies would form the main body or reserve under another field officer, and would follow the supports, at a distance, during the preliminary stage, something in excess of that maintained between the supports and fighting line.

As the position of the enemy is approached, the whole battalion closes on its fighting line, and acts as a tactical unit under the immediate direction of the battalion commander, either for frontal attack, or frontal and flank attack combined, according to circumstances.

When the companies of a battalion are strong, an alternative formation is permitted, which is applicable not only to an eight company, but also to a four company battalion. Portions only of the leading companies, four or two according to the number of companies in the battalion, are extended as a fighting line, the unextended portions forming the supports. The remaining half battalion follows, as a main body or reserve.

In the *defence*, the battalion is subdivided, much in the manner laid down for the attack. As a general instruction to guide the commander in the extent of ground he is to take up for defence, it is suggested in the Field Exercise, that three men, including reserve, should be available for every yard of front of the selected ground. Thus the battalion in the above calculation, having eight companies of 100 men each, would not, as a rule, defend a position of greater extent than 270 yards from flank to flank. It is evident that any such instruction must be subject to modification, according to the special conditions of each case.

#### ATTACKS WITH THE BAYONET.

We have alluded more than once to attacks with the bayonet. The principles which should regulate their application are very few, but they should be clearly understood. Except where opportunity offers of surprising an enemy by a rush upon him, or of seizing rapidly upon a position or ground which the enemy has not yet altogether taken up,

no attack with the bayonet should be made, without having been preceded by such a heavy and close fire as to break the enemy's line and throw him into confusion. Attacks with the bayonet, when they are premature or rash, result in disorder and heavy loss, and are easily converted into a rout.

A bayonet charge once engaged in should be pressed vigorously home. The men should be shown in preliminary exercises that, at the close range at which bayonet charges alone can take place, the enemy's fire is really less effective than at longer distances, and that, once the charge has commenced, the best chance of safety lies in advance, since the loss would certainly be doubled by retreating, at such a stage.

#### ATTACKS BY CAVALRY.

Should the extended firing line be attacked by cavalry in the open, the men may form files, or groups of fours, according to the amount of danger from the charge. It is always an advantage to leave clear spaces in the line, through which a portion of the cavalry is sure to pass without doing any injury. The extended line should then lie down, and allow the supports to complete the rout of the cavalry, or of what remains of them after their charge upon the fighting line. The supports, as a rule, will receive cavalry in line two deep. Denser formations can hardly ever be necessary; but if the cavalry presses upon the support, the flanks of the infantry may fall back, so as to form a two-deep oval round the commander.

## EXERCISE IX.

## INFANTRY COMBAT.

ENGAGEMENT OF TWO PATROLS.

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## IDEA.

1. A piquet (Red) posted near Garrads Cross sends a patrol, of eight men under a corporal, over Garrads Bridge, with instructions to reconnoitre the village of Glenfield, and ascertain the strength and position of the enemy who is supposed to be in the vicinity. The village itself is in ruins and deserted by the inhabitants.

2. A force (Blue), having just arrived from the south-west, has posted a piquet near Long Wood on Rainham Hill. A patrol, of twelve men under a sergeant, is sent out to reconnoitre in the direction of the source of Gorsham Brook. If it should meet an enemy's patrol of less force it is to drive it in, making, if possible, a prisoner or two. Objects are seen with difficulty at 600 yards, the day being dull.

## FIRST STAGE.

*Red.*—The patrol has marched to the bridge in route formation, and after crossing extends as it advances. The three men of the left group of the line are cautioned to observe the cultivated ground on the slopes of Rainham Hill, the hedges of which might afford cover to an enemy.

*Blue.*—The patrol, having examined the buildings of the Royal Arms public house, is proceeding along the road in route formation, ten men on the road, and two men on the left skirting round the field at the back of the house. The point on the road has just reached the east angle of the field, when it halts and



sends back intelligence that a party of Red is crossing Garrads Bridge. The same news is shouted across the field by the flankers. The sergeant orders four men and the two flankers already in the field to line the portion of the hedge facing Garrads Bridge, and posts the other six men behind the house as a reserve.

#### SECOND STAGE.

*Red.*—The patrol advancing in extended order towards the village has gone about 200 yards from the stream, when the left flankers signal an enemy to the left front.

The corporal determines to approach and discover what force is present. He accordingly changes his course towards the Royal Arms, having four of his men extended in front, and the other four also in line, at one-pace intervals, about 50 yards behind.

When at 400 yards from the fence of the field, he is fired at by Blue. His fighting line continues to advance, taking advantage of temporary cover to halt and return the fire.

*Blue.*—The sergeant has no sooner completed his dispositions, than he perceives by Red's change of direction and new formation, that he has not done so undetected.

Owing to the careful advance made by Red, the sergeant cannot exactly tell how many men are in the party, but he estimates its strength to be less than his own, and he cannot see any sign of a support following. He therefore determines to attack Red in the open. He orders the men behind the hedge to bring a rapid fire to bear upon the enemy from cover, while he himself advances with his other six men in fighting order to attack. The men at the hedge are to continue firing till masked by the advance of the fighting line, and then to follow in support.

#### THIRD STAGE.

*Red.*—The fighting line is advancing from one point of shelter to another, wherever cover is afforded by scattered trees and the slopes of the ground, in the direction of the hedge whence the shots are coming. The corporal sees another party issue from behind the house, and, fearing for his right flank, brings up his support on that side.

Infantry Combat  
Engagement of two patrols.



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As Blue hears him he also perceives its support leave the cover of the hedge and advance against his left. Red is now conscious (he has lost one man killed and a second is wounded) of being outnumbered and outflanked. He accordingly attempts to retreat.

*Blue.*—The sergeant continues his front attack with the party from behind the house, and at the same time the men under cover leave the field and come up in support on his right rear. Red is seen to waver, upon which the sergeant orders up the Blue support to make a flank attack. This succeeding, Red is driven back in disorder towards the bridge, the corporal being severely wounded and the party without a commander. The Red patrol escapes over the bridge with the loss of two killed, and two wounded, taken prisoners, one of whom is the corporal.

The other four men regain their piquet with an exaggerated report of the force that defeated them.

Blue, after watching the bridge for a time, falls back slowly to his piquet, with the loss of one man killed, and another wounded, who, as well as the two prisoners, requires to be assisted along.

#### OBSERVATIONS.

Blue might equally have gained his point by keeping under cover, since Red had shown that he intended to advance, probably for attack. Since, however, Blue elected to risk the action in the open, he was wise in retaining the party behind the hedge, who by their fire might prepare the way for the attack by his left party. Moreover, by converting what had been his front line into a support, he gained the advantage of attacking Red in flank, in the manner most likely to cut off his retreat; Blue thereby securing a prisoner, which he had been directed if possible to do.

Red was too hasty in joining his support to the fighting line. The enemy having shown himself at two points, made it the more necessary that the support should be kept in hand to cover a retreat, and for that purpose it should certainly have been placed in rear of the left flank.

**EXERCISE X.****INFANTRY COMBAT.****COMPANY AGAINST COMPANY.**

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**IDEA.**

In consequence of the report of a reconnoitring patrol, a company (Red) is ordered to advance from Wiley Hill to attack a company (Blue) which has occupied Pawley House grounds.

Approximate strength of each company: 3 officers, 5 sergeants, 5 corporals, 100 privates.

**FIRST STAGE.**

*Red.*—The company which is ordered to attack the detachment of the enemy just arrived at Pawley House, leaves Wiley Hill and marches up the valley by the road bordering the Mill Brook, crossing the bridge at the foot of Drayton Hill, and advancing with caution up its slopes.

Reconnoitring scouts are sent on to turn the left of the wood in front, and also to the angle of the fields on the north slope of the hill. They signal the wood apparently clear from either point of view; but on the left scouts venturing on a little farther to the south-west corner of the wood they are fired upon by a party of the enemy, which appears to be posted in a copse some 500 yards off, just south of the Pawley Park fence. At the same moment the scouts on the right signal Blue scouts between the two woods.

*Blue.*—Captain Z. commands the company which has arrived at Pawley Park with the view of holding it temporarily as an advanced post. The report of a reconnoitring party sent on in advance leads the commander to anticipate an attack from

Minton or Wiley Hill, both of which places are occupied by the enemy.

A preliminary examination of the ground, showing that the south side of the Park presents a strong natural line of defence of banks, trees, and fences, against which an assailant would hardly care to advance, Captain Z. decides to guard it by only a small party of a corporal and six men. These men are posted in the copse immediately outside the Park fence facing Churton.

On the east, which is the most probable point of attack, Captain Z. lines the Park fence for 200 yards with a party of 50 men under Lieutenant X.

The remainder of the company is held in reserve close to the house under the command of Lieutenant Y.

Four or five scouts under a sergeant are sent on to Drayton Hill to look out for the enemy. If driven in they are to take post as an advanced line on the Pawley-Churton Road, which crosses the front of the position at about 180 or 200 yards from the Park fence. This road is fenced, with a low bank on each side.

These dispositions being made, the defenders, having had a fatiguing march, lie down to rest at their respective posts.

The scouts and the corporal's party continue to keep a good look-out to the east and south-east, and at length give simultaneous warning of the approach of the enemy.

#### SECOND STAGE.

*Red.*—The Blue scouts seen between the two woods retire before Red's advance.

Captain B., the commander, now divides his company into a fighting line of one section with another section in support, both under the command of Lieutenant S., the senior subaltern, and a reserve of the remaining half-company under Lieutenant T., the junior subaltern.

On reaching the end of the wood which extends from west to east down the slope of Drayton Hill, the fighting line opens out to three paces intervals between files, and finding the trees not too thickly planted for passage moves right through the wood to its western border. Here the leading section halts while still under cover.

The supporting section does not enter the wood, but halts in rear of it.

The scouts, with some reinforcement of their numbers, are now pushed on to the front and to the left flank, and draw fire from several parts of the Park fence, and from the fences of the roads in front of it, as well as from the corner of the copse facing Churton.

*Blue.*—The enemy has as yet only shown himself by his scouts. Captain Z. observing that the fire of these men is being returned by his own fighting line in position behind the Park fence, sends peremptory orders to Lieutenant X. to restrain the men from thus early indicating their position to the enemy.

Captain Z. now mounts to the top of Pawley House to endeavour to obtain sight of Red's force, but he can see nothing of it, the woods intercepting his view of the eastern slope of Drayton Hill. There is, however, a gap between the two woods, and here the Blue commander detects with his glasses the movements of small groups and individuals of the Red force. This confirms his impression that the woods, more especially the southern portion of them, are occupied by Red.

#### THIRD STAGE.

*Red.*—Lieutenant S. seeing that the general position of Blue, as shown by the fire from the Park fence drawn by the Red scouts, is quite to his right front, determines to prolong his own line to the right. He accordingly orders up half his supporting section, to line part of the border of the northern portion of the wood which faces the defenders' main line. When this is completed, Lieutenant S. opens fire upon the position from the whole of his fighting line, directing his men while firing to keep well behind cover at the edge of the wood.

Red's fire is immediately returned by the defenders, and Captain R. coming up to the edge of the wood is enabled to mark the extent of the Blue position by the smoke of the rifles.

He notes that a small wood, which is in fact Pawley Wood, is opposite to the left of Blue's line, its end running up to within a short distance of the Park fence at that point. Captain R. accordingly resolves to combine a flank attack from Pawley Wood with a frontal attack from Drayton Wood, and transmits an order for a section of the reserve to move up to the right flank, keeping under cover of the trees during the change of position.



*Blue.*—Captain Z., on the enemy opening fire from the edge of the southern wood and from the portion of the border of the northern wood immediately adjoining it, believes an attack to be intended on the right flank of his position. His impression to this effect is strengthened by his hearing a dropping fire commence on the extreme right, which is really only the fire of his own party in the copse drawn by some Red scouts who have worked round under cover of the slopes of the hill. He orders up a section from the House to remain in close support to the right flank of his line.

#### FOURTH STAGE.

*Red.*—The section from the reserve has pushed up through the north end of Drayton Wood, and taken post without being perceived by Blue, just inside the western border of Pawley Wood. It is commanded by Lieutenant T.

The remainder of the reserve moves up to the east end of Drayton Wood.

The fighting line under Lieutenant S. now leaves the cover of the wood and advances, opening out a little more as it does so, the men being in single rank. The remainder of the support follows, in two groups of six men each, at a distance of about 50 yards from the fighting line.

The Red scouts in advance move up to and gain the line of the Pawley-Churton Road, the Blue scouts falling back and getting into the ditch outside Pawley Park fence.

On nearing it the Red fighting line also makes a rush for the road, lying down on it behind the low bank which bounds it on the western side. From this cover rapid, independent fire is commenced by Red, the two groups of the support also coming up intact and filling two vacant places in the line.

The section of the reserve under Captain R. has reached a point about 150 yards in rear where an irregularity of ground gives fair shelter; it is lying down in open files.

The opportune moment for the flank attack having now arrived, as Blue's attention is fairly engaged by the frontal attack, the Red section in Pawley Wood dashes out, and crosses the intervening space, about 180 yards, which lies between the end of the wood and the Park fence opposite to it.

At the same instant Captain R. moves up his reserve section rapidly to the road, forming it into single rank, and commences volley firing over the heads of his fighting line, which is lying

behind the bank keeping up a rapid independent fire upon the enemy. The first volley of the reserve section is delivered just as Lieutenant T.'s party reaches the Park fence on the right flank.

*Blue.*—On Red's fighting line advancing from Drayton Wood Captain Z., fearing for his thin line of defence, more especially on the right flank, brings up his section of support to strengthen it. The men are distributed along the fence, but more on the right than the left of the line.

The remaining section is still in reserve at the House, and when Red's flanking movement is perceived, Captain Z. instantly orders it up. The distance, however, which it has to pass over is 300 yards, and there is some slight delay in signalling it to advance, so that before it can arrive Lieutenant T.'s party has gained the Park fence and has taken Blue in flank.

#### FIFTH STAGE.

*Red.*—As Lieutenant T.'s men arrive at the fence, which is not high, they scramble over it, and forming into groups as they get into the Park take what cover they can find, and open fire at once on the defenders' fighting line, thus enfilading it from one flank to the other.

Blue wavers, and finally falls back before a general frontal advance of the Red fighting line and reserve, which is now made right up to the Park fence by Captain R.

On Blue retiring with considerable loss, Red does not follow up in pursuit beyond the limits of Pawley House Grounds.

*Blue.*—The section of the reserve arrives too late to prevent the line being taken in flank, and Captain Z., seeing the position of affairs, restrains it from entering into close combat, in order to make use of it for covering the retreat which is now inevitable. The Blue force has lost a number of its men, and the remainder are demoralised by the enfilading fire of Red.

The commander stations the reserve section at a clump of trees behind the left flank and then orders the retreat. This is commenced from the right flank, but is not conducted in a very orderly manner nor without further loss of men, one of the subaltern officers being also killed.

The reserve section does its best to cover the retreat, under the personal direction of Captain Z., and a portion of the com-

pany is by this means enabled to withdraw in safety to the main road leading west from Pawley Village. The pursuit is not pressed by Red beyond this line.

#### OBSERVATIONS.

Blue's errors were: first, in taking up so long a fighting line of defence as 200 yards with a force not exceeding 100 men; second, a consequence of the first error, in reinforcing the fighting line at too early a period of the combat; third, in failing to foresee an attack being made from Pawley Wood, which approached so nearly to a flank of his position.

As regards the last point, Captain Z. should have occupied this small wood as an advanced post from the very commencement, and even a very small party placed therein would have prevented his being in a measure surprised by a flank attack from that quarter.

Blue's reserve was also kept too far from the front line. This was probably occasioned by some idea on the part of the commander of rallying upon Pawley House, in the event of having to fall back from his more advanced position.

The reserve section was, however, skilfully handled in covering the retreat, as shown in the last stage.

Red made no mistakes of any consequence, and was accordingly rewarded with complete success.





1. The first part of the document is a list of names and addresses of the members of the committee.

## CHAPTER IX.

## ATTACK AND DEFENCE OF CAVALRY.

## TACTICAL EMPLOYMENT OF CAVALRY IN ACTION.

THE general principles of the employment of cavalry on the field of battle have been briefly stated in a former chapter.

In considering more in detail the action of this arm in attack and defence, it will be convenient to discuss, first, the mounted service, in which cavalry performs its normal functions; and secondly, the dismounted service, which is deserving of separate notice in the present day.

The nature of the proper tactical employment of cavalry in combat, is pointed out to us by a consideration of the source from which it derives its special attributes. The horse gives to cavalry two qualities—rapidity of movement, and weight of shock. By means of the former, cavalry can pass with celerity from one part of the field to another during action, in order to operate by surprise on distant points, to profit by any mistakes on the part of the enemy, or to reinforce quickly a weak part of the defence. If driven back or required elsewhere, it can retire as rapidly as it has advanced. In the pursuit, also, after an engagement, cavalry, by its superior mobility, comes into preferable use before the other arms.

By its weight in shock action, cavalry has the power of breaking the enemy's formations, or of exercising moral

control over his movements, by its presence close by or near at hand.

#### CAVALRY IN ATTACK.

Cavalry attacks in line, generally in close order, sometimes in extended order.

The *attack* or charge in close order, which is the more usual formation for cavalry, especially in large bodies, is made in two ranks if numbers allow, the men riding knee to knee. This compact formation gives the greatest possible power of shock, and it is always employed in charging cavalry.

The attack in extended order is made use of against infantry or artillery, when it is desirable not to present a compact object to the fire of the enemy, and when the effect of the shock-action of the charge is not required to break a formation. It may also be employed, on occasion, in the pursuit of a broken or dispersed force of the enemy of any arm. It is laid down in our Regulations, that in extended order the men advance in line with intervals between files of from four to eight yards. With a strong force the attack would thus be made in two ranks ; with small bodies of men it would necessarily be made in rank entire.

Cavalry 'attack' commences by a movement in advance, increasing in rapidity as the enemy is neared, which is followed by the shock of encounter, and is terminated by personal engagement with sword or lance. The moral as well as physical effect produced by the charge, is kept up by the physical effect of the naked weapon upon the dispersed fractions of the enemy. It is necessary for complete success, not only that the enemy's formation should be broken, but that his tactical dispositions should be altogether upset, and that he should suffer such serious loss as to be unable to re-enter the lists as a combatant during the rest of the engagement.

In the chapter already referred to, we have mentioned two fundamental principles for the conduct of cavalry : that it should constantly seek to attack the enemy's flanks, and that it should never attack at all without keeping a portion of its



strength in reserve. The second of these principles is in direct connection with the first ; for as the enemy's flanks should be assailed because they are the weakest points, so an officer of cavalry should protect his own flanks from attack by keeping troops in hand. As cavalry combats are almost always composed of a succession of frontal and flank attacks, it may be deduced from a consideration of the principles quoted, that whichever of two adversaries can last make a flank attack upon the other will probably remain the victor.

The absolute necessity of keeping a reserve disengaged, during attack, is not only clearly shown by the foregoing, but by the following considerations. After a successful cavalry encounter the victors and the vanquished are alike in disorder, and the most that can be said in favour of the former is that they can rally more quickly. If a reserve is in hand, it will cover the operation, and complete the enemy's defeat. But if no reserve has been kept by the victors, the smallest body of fresh troops coming up in aid of the enemy, may rapidly turn victory into disaster, for cavalry are never less able to resist attack than immediately after a charge.

If the introduction of arms of precision has had the undoubted effect of limiting the general employment of cavalry in masses on the field of battle, it has, on the other hand, increased the opportunities for attack by smaller bodies upon infantry in their dispersed formations.

The tactical employment of cavalry in pure attack, during an action, must not therefore in any way be looked upon as an obsolete manœuvre. In preparing for attack, the aim of a cavalry commander should be to place his men in such a position as to render their subsequent charge upon the enemy as effective as possible.

Thus the force should be kept out of sight and out of fire until the time for action arrives. Squadron or ground scouts should be sent out to reconnoitre to the front and flanks, so as to assist the commander by their inspection of the ground, and by giving early and constant intimation of the position of the enemy. The flanks must also be protected

by flanking patrols. These precautions should never be neglected.

The proper time for attack must be anxiously watched for by the commander, as, if not taken advantage of at the moment, the opportunity for cavalry action is generally lost. The most suitable occasions would be, when accidents of the ground enable the force to reach striking distance unobserved, so that the attack becomes a surprise; or when the enemy, appearing to feel the effects of infantry fire, hesitates in his advance, and seems disorganised; or when the infantry itself, being pressed by the enemy, requires time to rally and reform, and to have attack diverted from it for the moment. The commander should also carefully watch the enemy's artillery for opportunities of successful attack upon his guns. Any symptom of disorder among the troops of the enemy should, if possible, be taken advantage of by the cavalry. Were a village or wood, for example, about to be vacated by the enemy, the cavalry should look out for the moment of retreat, and charge the defenders as they leave cover.

In all such cases the exact instant of time selected for attack is of the highest importance, and a correct and instinctive judgment in seizing upon such a moment is of utmost value to a cavalry leader. If the attack be premature there is no chance of surprise, and the design becomes apparent to the enemy; should it, on the other hand, be too long delayed, not only is the golden opportunity lost, but the enemy, warned in time, may himself attack during the deployment, thus reversing the intended action.

The influence of ground upon the movements of cavalry is of far greater importance than in the case of infantry. Although good, well-trained, well-mounted cavalry will ride in fair order over broken ground, the effect of a charge under such circumstances is much impaired. If the soil is saturated with wet and the ground heavy or swampy, or if the land is ploughed, or deep in sand, cavalry move with more or less difficulty. Generally open ground, even if much varied by accidental features, is favourable, provided there are passages by which small columns can move from one

open space to another. In open, level, ground any attempt at surprise on the part of cavalry becomes impossible, but open, undulating, ground is the best for such purposes, and the next best a combination of open and close ground.

The actual space necessary for a cavalry attack is proportioned to the strength employed. There should be room enough to the front for the cavalry to advance, with sufficient force deployed, not only for the charge, but for the further *mêlée*, and perhaps pursuit.

There should be space at the sides for the movements necessary in a flank attack. The ground should also afford means of retreat to the rear, and there should be no insurmountable obstacle, upon which, if unsuccessful, the cavalry might be suddenly forced back.

As regards the direction of cavalry attack, two conditions may be considered :

1. DIRECT OR FRONTAL ATTACK ;
2. FLANK ATTACK ;

both of which may also take place in a simultaneous movement.

Under the head of *direct attack* may be included every form of frontal encounter, in which the opposing line is not over-lapped or out-flanked, even though the direction of the actual charge may be more or less oblique to the enemy's line.

In the direct attack, the result is in proportion to the weight and strength of the horses, and to the steadiness and compactness of the charge. It does not follow, even though the direction of the charge be exactly perpendicular to the enemy's front, that two mathematically straight lines should meet in collision. In the preliminary advance to the charge, the line may be preserved over favourable ground with more or less exactness ; but during the charge itself, when every horse may be said to lay itself down to its own racing speed, the cohesion is unavoidably interrupted, and certain gaps are left in the attacking line, by the opening out of files.

Similarly the enemy, whether cavalry or infantry, receives the charge in a line of more or less irregularity, so that the

precise moment of collision is not the same at each point of its length. This, added to the involuntary opening out of the attacking line, tends to break it practically up into a series of groups or knots of men, at the moment of actual shock.

The most forward riders, on the best horses, have insensibly drawn out in front of the attacking line. The officers hold their own well in advance, for once thrown back amongst their men they no longer can be said to lead. After the first instant of shock is past, the individual valour of officer and man, and skill in the use of weapons, become the important elements in the final result.

We have said that, as a rule, no attack should be made by cavalry, without a support or reserve. In most cases, and always when attacking cavalry, if with sufficient force, say a regiment or upwards, there should be both a support and a reserve. Should the strength not allow of both, one body would have to combine the functions of a support and of a reserve. The support follows the attacking party, echeloned on the exposed flank, at such a distance to the rear that it may efficiently support but not be affected by the disorder of the leading body. In general 300 yards would be a sufficient distance. Its duties are to meet a flank attack on the part of the enemy, or to make a flank attack upon him, either in combination with the frontal attack, or as a diversion to cover the enforced retreat of the first line. If there should be no reserve, a part of the support should be kept unbroken for all possible contingencies, especially for the disengagement of the first line if the attack should fail.

The reserve, if there is one, follows, at about 400 to 450 yards from the first line, in echelon, in rear of the flank not covered by the support. It should be kept in hand as long as possible, until a critical moment arrives, when it may either decide the victory, ward off attack upon the front line when in disorder, or arrest pursuit.

Under the head of *flank attack* may be included all cases of attack from any direction, in which the opposing line is out-flanked, as well as those in which attack is made directly

upon the enemy's flank. The out-flanking movement may be made by attack from the front, with a line of greater extent than the enemy's, so that the portion of the assailant's line over-lapping, either at one or both ends of the line, may wheel inwards and fall upon the enemy's flanks. If the attacking line is only equal to the opposing line, this mode of assault is dangerous, for, by attaining an advantage on the one flank, it would lay itself open to a corresponding disadvantage on the other flank. Should it be attempted, the weak flank of the assailants must be refused by keeping it in echelon. It is evident that in this case, of attack upon the flank by wheeling inwards, the shock action is not represented at full value.

The direct attack upon a flank is by far the most telling, and usually successful, movement. It can be effected by the smallest possible detachments, even against large bodies of troops, provided that the attack is unlooked for on the part of the enemy, and vigorously pushed before he has time to meet or avoid it.

Cavalry should endeavour to carry out such attacks, by working up under cover to striking distance from the enemy's flanks. In a varied country facilities are afforded for such manœuvres, though a watchful enemy would hardly allow of their accomplishment. When such mode of approach is impossible the flank attack must be made in combination with a frontal attack, as shown above. Attacks of this description are termed *offensive flank attacks*, and the detachments by which they are effected are called *offensive flanks*. They follow behind the wings of the attacking line, echeloned to the flank, and move out therefrom at an increased pace just before the charge, so as to combine with the frontal attack by a simultaneous movement on the enemy's flank. They are also employed to ward off or resist counter-flank attacks on the part of the enemy during the advance, when they are called in turn *defensive flanks*.

In moving forward for attack, the preliminary portion of the advance should be made in small column formations, that of squadron column of fours being the most useful. These

formations possess both mobility and flexibility, and present but small objects to artillery fire. They can readily turn obstacles, and take advantage of cover, and rapidly form line for attack whenever required. Continental armies make much use of the column of *pelotons* or sections (i.e. the fourth part of a squadron) for similar movements, but our organisation does not admit of such formation.

The force moves off at a walk, which is increased to a brisk trot when it comes under the enemy's fire. The trot and the small column formation are both preserved until within some 600 yards of the enemy, when line should be formed, and the advance continued at the gallop. This pace is then gradually increased, till within about fifty yards of the point of attack, when the word 'charge' being given, the line receives a powerful impulsion which culminates in the final shock.

If the charge is successful, and the reserve undertakes the pursuit, the portion of the force which has charged should endeavour to rally and re-form as soon as possible, so as to serve in its turn as support to the pursuing cavalry.

If the charge is unsuccessful, the attacking force should retire, in such manner as to avoid clashing with the reserve, which, at this moment, should be ready to attack the enemy in flank on his attempting to pursue. With this object in view, the first line should fall back over the ground by which it had advanced, or else by the flank opposite to that held by the reserve. It should of course rally, and come up again, if possible, in formation, to take its place as support.

One other mode of employing cavalry, in combination with infantry, may be mentioned. A false attack or threatening movement is made by cavalry, which then retires before the enemy's cavalry, drawing the latter under fire of concealed infantry at close range. The enemy's cavalry is thus almost completely destroyed or rendered powerless for the remainder of the action.\*

\* This was frequently practised by the Prussians in 1866; a manœuvre much hated by the Austrians.

## ATTACK IN DISPERSED ORDER.

The attack of cavalry in extended or dispersed order may be effectively employed under various circumstances, sometimes in combination with the attack in close order.

The theoretical disposition of an attacking line in extended order, as already quoted from our Cavalry Regulations, would hardly appear at first sight to admit of such independent action as is allowed in other armies under similar conditions, and for which, it must be said, the experience of two wars has shown the necessity. In practice, however, our mode of attack is much the same, for cavalry in dispersed order must necessarily attack in 'swarms,' any attempt at preserving regular formation of line with equal intervals between files, when once the men are launched to the front, being practically impossible, and not desirable, as tending to hamper individual action.

Except in the case of very small bodies of cavalry, the attack in dispersed order should as a rule be made only by a portion of the force, the remainder being kept in reserve, or acting as a second line according to circumstances, in close order.

In the Austrian and Prussian services, the smallest proportion so kept in hand would be a fourth part of the attacking force. Thus if a squadron were ordered to attack in swarms, a section or *peloton* of the squadron would be retained in close order as a reserve, while the remainder would attack in dispersed order. With ourselves a half troop would represent the smallest portion of the squadron to be kept in support, under like conditions.

Circumstances may demand the employment of a small portion of the force only in extended order.

Thus should the enemy's cavalry turn and break without awaiting a threatened attack, the intended charge might be checked, and the more rapid pursuit necessary of a flying and dispersed enemy, taken up by a portion of the force only in dispersed order. The remainder would follow in close formation.

Extended order in combination with close formation may sometimes be made use of in attack. Thus if a squadron is directed upon artillery protected by an escort, a troop or half troop should go against the guns in swarms, while the remainder of the squadron in close formation attacks the escort.

A general attack in extended order by a strong line of cavalry is sometimes necessary, as being the only mode in which cavalry can advance in the face of a heavy fire without utter annihilation, from which no degree of gallantry can save it. Such an attack in dispersed order, the line gradually closing in from the flanks, may possibly succeed; but the movement is always dangerous, and should not be attempted unless the force is exceedingly well disciplined, and accustomed to rally quickly after attack. It should be well supported by cavalry in reserve.

A general attack may also be made use of in open country for the pursuit of a broken enemy, whether of cavalry or infantry, or to act against artillery, or against a line of extended infantry under favouring conditions.

Sometimes a general demonstration is made by a large force of cavalry in this order, without any real intention of attack, thus holding the enemy for a time, or forcing him to lose time by manœuvres.

In working cavalry in extended order, it is especially necessary that the men should have been habituated to rally quickly after the attack. On the rally being sounded every man should close at once on his leader, facing towards his proper front, without regard to his former place in the ranks. Sometimes the men rally on the support, every man turning his horse about and galloping back to the rear of the support, coming up on its flank by another turn about to the front. This mode of rallying is in favour with the Prussian cavalry.

#### CAVALRY IN DEFENCE.

In modern tactics the opportunities for the employment of cavalry in a defensive battle are still numerous. The enemy's cavalry must be watched, especially in varied



ground, to forestall attacks upon unprotected flanks of the infantry, and generally to prevent out-flanking manoeuvres. The flanks of infantry and artillery in forward movements must be guarded. In the case of attack by the enemy at any special points the cavalry should seize opportunities of time and ground for charging, if the assailants waver or hesitate in the advance, or immediately after the assault has been made.

Cavalry may also be used in large bodies on the defence, for masking movements and making demonstrations.

The local defence of cavalry may be dismissed in a word, for, as has been said, the leading principle of this arm is that of attack. Unless in such cases where a portion of the force can act dismounted (of which more later on), the only means of local defence, available for cavalry, lies in counter-attack, or in quick avoidance of the enemy when attack is impossible.

#### THE CAVALRY SOLDIER IN ATTACK, ALONE OR IN GROUPS.

The cavalry soldier acting alone, whether from being separated from his comrades or for other reason, and finding it necessary to attack, must act boldly but with circumspection, knowing that his success depends not only upon the valour he displays, but upon the management and preservation of his horse during the encounter. He should endeavour to approach his adversary unseen, until within charging distance, and then ride at him with determination. If the soldier carries a sword, he should endeavour during the encounter to keep his right front opposed to the enemy, or at all events to prevent the enemy getting upon his left rear, which with a swordsman is the weak point. If the soldier carries a lance, he can shorten or lengthen his thrust with great facility on the left side, whether to front, flank, or rear; on the right side he has a very long thrust, although it is not so strong; but he should always endeavour as much as possible to prevent the enemy getting on his right rear, which with a lancer is the weak point.

Against infantry, in personal encounter, every parry should be made, so that the strong part of the cavalry weapon, i.e. the fort of the sword or the butt of the lance, strikes the feeble part of the infantry weapon, i.e. the bayonet fixed on the end of the rifle.

A group or small party of cavalry in attack must be guided by the conditions of the case, as to the order in which it fights. Thus a group or patrol, of some half a dozen men, would probably charge a similar cavalry patrol knee to knee, but in rank entire. If attacking an infantry patrol, moving, as is most likely, in open formation, the cavalry group would swoop down upon its enemy in dispersed order. But against infantry in any collected formation, where the strength of the cavalry detachment would enable a front of fair extent to be shown without extension, either in one or two ranks, and the ground is favourable, both the moral and physical effects of a charge in close formation would probably be greater than if made in extended order.

When attacking in close order, any undue crowding together of the files at the instant of the charge tends to impede the free movement of each horse, which at no time more requires to be independent.\* At the moment of shock, the horse, although kept well in hand, should, if necessary, receive pressure from leg and spur. The greatest effect in a charge being derived from the uniform velocity of the force, whether large or small, the pace must not be so hurried as to bring up the horses to the attack blown or even distressed. All the horses should be kept square to the front, and never, if it can be avoided, allowed to get out of hand.

#### SMALL BODIES OF CAVALRY IN ATTACK.

With very small parties of cavalry there is some difficulty in retaining a support during the attack, but when the strength amounts to half a troop or upwards the general rule on this head should certainly be followed. One or two scouts would precede the party about 200 yards to the front,

\* Cavalry Regulations, 1876, p. 187.

before the order to advance is given, in order to reconnoitre the ground. If a surprise be intended, the scouts must be especially careful to keep themselves concealed from the enemy's view.

Should the strength of the party be half a troop, or about 24 men, the attacking portion of it would be formed either of 12 men in single rank, or of six files in two ranks, the remainder being kept in support. The support would follow the attacking party on the exposed flank, in echelon, at 200 or 250 yards to the rear.

Where a troop is acting alone, the attacking portion might consist of half the troop formed in two ranks, the other half-troop forming the support.

All parties of cavalry under the strength of a squadron, should, as in the case of that body, direct their charge by the centre, the men being careful to keep up to and dress by the centre, without closing in or opening out more than is unavoidable, the flanks being also not too forward.

#### THE SQUADRON IN ATTACK.

The form of attack by a squadron, the complete tactical unit of cavalry, may be looked upon as typical, and would be carried out in the following manner. The strength of the squadron (the war establishment of which is given at page 23) may be taken at 48 files or 96 horses.

The point of attack having been indicated at some 1,000 yards off, two or three scouts would be sent to the front and a small flanking patrol to either flank. The scouts are to reconnoitre the ground to be passed over in the advance, and the patrols are to search carefully all ground that might conceal an enemy, and thus prevent a sudden flank attack upon the squadron. Both the scouts and the patrols are to give the earliest intelligence of the enemy's presence.

The squadron, on receiving the order to advance, moves off at a walk, in a small column formation. If the column of fours is made use of, it should be formed with due regard to the exposed flank, so as to be more quickly brought up

into fighting formation. Thus if the right flank be most threatened, the column of fours should be formed by advancing from the left of the squadron.

The walk may be preserved, unless time is of importance, until the squadron comes under the effective fire of the enemy, when a brisk trot must be assumed and kept up to 600 or 500 yards from the point of attack. Column of troops is then formed, and the rear troop, checking its pace, follows in echelon on the exposed flank, at about 200 yards distance, in support of the leading troop which forms the attacking force. The latter now breaks into a gallop, the rear rank taking order if the ground is at all broken, swords being sloped or lances carried.

The squadron leader heads the attacking force, the other officers of the troop following him in line in advance of their men. The troop in support is under the command of its own troop leader.

The distances given are to be understood as referring to an attack on a force in position. The principles to be kept in mind are, that whatever the distance to be passed over in the preliminary advance, it should always be traversed at a rapid pace if under the enemy's fire. The trot is therefore assumed so soon as the zone of effective infantry fire is entered. The column formation should be preserved until just before the pace of the gallop is to be assumed. This should not be too soon, as the result would be to distress the horses before the final shock. If the enemy is advancing to meet the attacking force, the pace must be so regulated as to be greatest at the moment of actual encounter.

The gallop should not be too hurried when first entered upon, but the speed gradually increased until charging distance, or about fifty yards from the point of attack, is reached. Then the command to charge being given, swords or lances are brought to the engage and the pace is quickened to the utmost extent which can be attained in good order. As the charge is about to commence the scouts clear off to either flank.

The support following in echelon on the exposed flank

should endeavour to manœuvre against the flank of the enemy, or ward off any flank attack made by the latter during the advance ; being thus in readiness to take an offensive or defensive part in the engagement, according to circumstances.

In the case of the attack being made upon cavalry, or under other circumstances where it may be advisable to retain in hand a reserve, the above dispositions must be somewhat altered. The support would perhaps be reduced to a half-troop, the other half-troop constituting the reserve, or a smaller proportion of the force be allotted to the leading line.

During the attack the reserve would follow, at a further distance to the rear equal to that of the support from the leading line, but usually echeloned on *the opposite flank*.

The functions of the reserve commence after the first attack is concluded, when it would either reinforce the leading portions of the squadron and decide the action, or else would save them from utter disaster in case of reverse, and arrest pursuit.

Both the support and the reserve should be in line or in formation from which line can be rapidly formed, due regard being had to the ground and to available protection from fire during the preliminary stage.

Should the attack of the squadron be made upon cavalry, and the ground be favourable, the support should have special orders to endeavour to combine a flank attack with the frontal attack, acting for that purpose to a certain extent independently of the leading troop. When the support advances to make an offensive flank attack, the reserve should close up and perform the functions of the support, but will still remain on the opposite flank.

In attacking cavalry it is an advantage to the assailants if they can charge down a slight incline towards the enemy, the slope of the ground giving an impetus which nothing can stop.

The attack of a squadron upon infantry should as a rule be only undertaken when one of the following conditions exist :

1. The infantry should be demoralised or be inferior in quality ;

2. Or the infantry should be taken by surprise, the cavalry having been able to approach unobserved to striking distance ;

3. Or the infantry should have expended their ammunition, or be already broken by the fire-action of opposing troops ;

4. Or the infantry should be in extended order and exposing unprotected flanks to sudden cavalry attack ; or, being in extended formation, be induced to close up by the moral effect of a demonstration of cavalry, and thus offer a better target for rifle and artillery fire.

In the last case the attack in extended order would often be the best method. Squadrons or small bodies of cavalry may sometimes produce a similar moral effect by simply hovering about the infantry and threatening to attack, especially if they have sufficient cover to conceal their true numbers.

The effect of the fire of a line of infantry being greater towards its left flank than towards its right, the latter flank should if possible be selected for the attack by cavalry. In attacking infantry the advance up a slight incline against the enemy is an advantage to cavalry, as infantry fire is always apt to fly high.

Should the attack of the squadron be upon artillery it is hardly necessary to observe that if opportunity occurs it should be when the guns are limbered up. If the guns are in position they should be attacked either on the flanks or in rear. Should the guns be escorted by other troops the squadron must attack both the guns and the escort at the same time. A portion of the squadron, say half a troop, would attack the guns in dispersed order while the remainder of the squadron attack the escort in close formation.

The attack upon guns would be made either to cause them so much annoyance as to force them to limber up and move, or else, if the cavalry are strong enough, not only to annoy but to capture or disable the guns.

If unlimbered the horses and limbers of the guns should be carried off (the gunners probably getting under the guns may be neglected), or at all events attempt should be made to cut traces and kill horses. If the guns are limbered up they may be carried off, in which case the gunners and drivers must necessarily be first killed or overpowered. If at any time it is necessary to arrest the progress of a battery on the move, no measure is so effectual as shooting one or more of the wheel horses.

Should the squadron be ordered to attack in pursuit, a portion of its strength might be advanced in dispersed order, the remainder following with closed ranks in case of an offensive return being made by the enemy. A half-troop would probably be sufficient to pursue in swarms, whilst another half-troop follows in support, and a reserve is formed of the remaining troop.

Should the squadron, however, be ordered to attack in dispersed order, for the purpose of harassing the enemy, or of making a demonstration against extended infantry, a small portion only would be retained in support. Thus half a troop might be kept in close order, the remainder being advanced in extended formation.

The squadron leader would lead the extended line, which would charge in swarms upon the enemy. The support would follow at a trot, ready either to advance in reinforcement at a more rapid pace, or to form a rallying point for the squadron if repulsed or ordered to fall back.

#### DISMOUNTED SERVICE OF CAVALRY.

The service of dismounted cavalry, which, we learn from the military annals of past ages, has been always more or less employed, is certainly destined to hold in future warfare a still more prominent place.

Some recent instances of the success of cavalry working on foot,\* have also attracted the attention of the military student to the value of dismounted fire-action.

\* Although it is beyond the general scope of this manual to quote examples from military history, what has so recently passed may be

In considering this service we will confine ourselves altogether to discussing the conditions under which trained cavalry dismounts for exceptional action on foot, and not those under which infantry may be trained to act as mounted riflemen with the sole object of transferring their fire-action with rapidity from one point to another.

The Regulations revised some two years ago for our cavalry service provide for the employment of dismounted cavalry under certain conditions, so that it cannot be said that we are indifferent to the worth of such service, having even, it appears, obtained some reputation on the Continent for advanced views in connection therewith.

The British cavalry are now provided with a carbine capable of rapid and accurate fire at long ranges, the effect of which as an arm of precision is altogether lost unless employed on dismounted service, it being understood that from the saddle the carbine is only to be used for purposes of signal.

There are many positions in which cavalry accustomed to act on foot may render most valuable assistance, both to their own and to the other arms of the service, particularly in an enclosed country, where it is difficult to attack an enemy mounted.

It is recommended that cavalry should not dismount in any place where mounted opposing cavalry could attack them before they can remount, or where the led horses would be under direct fire; and it is advisable that the dismounted men should not be too far from their led horses, in order that they may quickly remount, and also that the movements of dismounting, and of re-forming as mounted men, should be

briefly recalled to memory. Tirnova, defended by three battalions of Turkish infantry, was taken by dismounted Russian cavalry. Kesanlyk also was captured by dismounted cavalry, for the Russian infantry had at the time passed over the spurs of the hills towards Shipka. Lieut.-Colonel C. B. Brackenbury, R. A., who was present at these affairs, bears testimony to the efficient service there rendered by dismounted cavalry. The Russian regular dragoons and the Cossacks are taught to fight quite as readily on foot as on horseback. They carry good rifles and bayonets.



effected rapidly in the most convenient manner, so as to open fire or to retreat as quickly as possible.

The general conditions under which cavalry would be required to act dismounted are given as follows :

1. When acting on ground where shelter is obtainable, and yet where rapid mounted movements could also be effected.

2. When an obstacle, such as a bridge or ford, intervenes to prevent the enemy's rapid advance or pursuit, and presents an opportunity of delaying or keeping him in check by the use of a few dismounted men.

3. When a column of cavalry following a route, or traversing an enclosed country, is exposed to direct fire on its flank at long ranges, or when it is possible, under like conditions, to bring a flanking fire from behind banks or fences on an enemy moving on a parallel line.

4. When an inferior dismounted force can keep cavalry in check by holding isolated buildings or farms, without fear of being turned or surrounded.

5. When patrols or scouts fall in with opposing detached bodies in reconnaissance.

The method of acting on dismounted service with a squadron would be much as follows ; it being understood that as a general rule, applying to any strength other than very small bodies of cavalry, the numbers of men to be retained mounted as a support should be equal to the numbers furnishing the dismounted party.

If the ground is favourable for advancing and retiring under cover, the squadron would be brought up as close as possible to the point to be occupied on foot, but so much to one flank that the horses will not be directly in rear of the dismounted party when it has taken post.

One troop being reserved in support, the odd (or even) numbers of the other troop would be ordered to dismount with carbines, advancing a horse's length for that purpose. The mounted numbers then move up to hold the horses of the dismounted men.

The dismounted men form quickly in single rank to the

front, under the squadron leader and one troop leader. The second troop leader retains command of the support and led horses, which he keeps well under cover.

The dismounted men gain their position, at the double when time is precious, being as a rule (necessarily an approximate one) extended at two yards interval; they take post behind cover, lying, kneeling, or standing, according to the nature of the ground.

It is evident, from a consideration of the above instructions, that a squadron thus acting alone can dismount but half a troop, and that at war strength the maximum number of some 24 carbines could alone be furnished by the squadron.

Similarly a troop could put 12 carbines into position and a half-troop six carbines. Under this strength a mounted support could not be retained.

In column of route, if a portion of the squadron is required to act dismounted to the front, the leading troop would be preserved mounted, the dismounted men being sent forward from the rear. If the fire is required to a flank, should the column be in fours, the odd (or even) numbers of the named force can dismount. If the column is in sections, the files on the flanks of sections dismount; and if the column is in half sections, the dismounted portion may be furnished by the right or the left files, according as they are required to act to the right or left flank.

When patrols or scouts dismount for this service, they should be able to hold their own horses while they fire. For this purpose it is recommended that the men and horses employed on the duty should be specially selected; they should also have been previously well practised in the manœuvre. When patrols are in a formed body every second man may dismount, the others being horseholders.

Occasionally a line of cavalry skirmishers are required to fire dismounted. The rear rank men close in (the line is in rank entire), and hold the horses of the front rank men, who dismount and give their fire from the best position available close to their own horses.

When acting dismounted the cavalry soldier always keeps his carbine at the trail, except when loading or firing.

The foregoing and other instructions are given in the Cavalry Regulations, but due stress is laid upon the difficulty of framing precise rules in this service, as the conditions under which the men are required to act must vary in almost every case. Squadron and troop leaders are therefore to be allowed considerable scope for the exercise of their judgment and discretion in directing the dismounted action of their men.

In Continental armies, as with ourselves, the question of the value and best method of utilising and working dismounted cavalry, has of late years attracted much attention. Although it would be beyond our limits to enter into lengthy considerations of foreign systems, a few brief notes on the subject may be instructive to the student.

First as regards the manner in which the led horses should be held, which has always been a question of difficulty in every system of dismounted service. In the English cavalry a mounted man takes charge of one led horse, according to the Regulations we have quoted, but he can also without difficulty take charge of a second horse if required. Our horse artillery, in especial, have practised this for many years with perfect success, in dismounting their gun detachments. We will therefore assume that the English system will admit of either one or two horses being led by each mounted horseholder.

In the Prussian service similarly one mounted man holds two horses.

In the Italian service one mounted man holds two led horses.

In the Russian cavalry a large proportion of the mounted horseholders have charge of two led horses, and all are trained to hold that number if required.

The French cavalry hold their led horses in a like manner ; but a modern authority \* proposes, in a pamphlet lately pub-

\* Colonel Bonie, 'Étude sur le combat à pied de la cavalerie.' Paris, 1877. This interesting treatise, from which some of the following

lished, that the horseholders in that service should be dismounted, in which case he thinks each man could hold six horses (including his own), and lead them either to front or rear as required. It is put forward as an advantage attendant upon this method, over and above that of a larger number of carbines being liberated for dismounted action, that the horseholders will more easily find cover for themselves and for their charge than if they remained mounted, and being thus less likely to be disabled there is greater chance of the horses being held securely till they are again required.

It would certainly seem as if a dismounted man could hold and manage a greater number of horses than a mounted man, more especially if his charge were excited or troublesome, but the possible number quoted is very large, and would probably have to be reduced in practice.

Against this system it is urged, that the men cannot mount and get away again as quickly as by the ordinary method.

In all the above cases the horses are supposed to be held, each one by a separate rein in the horseholder's hands. One other method, that followed by the cavalry on both sides in the late American War, should be noted, notwithstanding that it may be urged that the American Horse at that time presented more of the characteristics of mounted infantry than of regular cavalry. The method is that by which the horses to be held are linked or attached together by the reins, the horseholder keeping only the rein of the nearest horse in his hand. One mounted man in the American cavalry would in this manner hold three led horses.

Against this method it is objected, with reason, that much time is required for linking and unlinking the horses, and that it moreover presents the possible disadvantage of one horse if he breaks away carrying with him one or two others.

details of foreign systems are taken, is recommended to the attention of the student. The data upon which each conclusion is arrived at are carefully, and no doubt as a rule correctly, given; but the author is mistaken in supposing that the English method of 'linking horses,' used in camp or bivouac for temporary purposes, has any connection with our 'dismounted service.'

The methods to be considered in present antagonism are therefore reduced to two.

1. A mode by which one mounted man, holding two led horses, one with each hand, would enable two out of every three men to dismount with carbines.

2. A mode by which one dismounted man, holding in all four horses, two with each hand, would enable three out of every four men to dismount with carbines.

The last of these methods has yet to be submitted to practical test in the field ; the former has been already successfully followed both in our own and other armies.

Another question of interest is the strength and composition of the support to be retained intact, when one portion of the force is acting with carbines, and a further portion holding horses.

In our service the general rule laid down is, that a force should be preserved mounted, equal to that which furnishes the dismounted portion ; but, as already stated, discretionary power is given to commanders on this as on other points.

In the Prussian service a mounted support is always preserved, which, with large bodies of cavalry, is of considerable strength, but with small bodies, such as a squadron acting alone, would be only represented by mounted patrols. The dismounted men are in general divided into two portions, a fighting line, and a support.

In the Italian service, in the case of a squadron or larger force, a mounted support is always retained, varying from the fourth to the half of the whole strength. With a half squadron, one portion or section is dismounted, the other remains mounted in support. With smaller bodies the whole force may be ordered to dismount, and formed into an advanced group and a supporting group of dismounted men.

In the Russian service the mounted support is formed of four picked men from each section, making sixteen for the squadron. These men are all well mounted, and they take up position between the led horses and the dismounted men. The latter are divided into two portions, skirmishers or fighting line, and support to the leading portion.

The American and the French cavalry also retain a mounted support to their dismounted men ; but the French cavalry authority we have quoted recommends that in his service the support should be dismounted, unless the force is a large one, such as, for instance, a regiment of cavalry and upwards.

A mounted support or reserve would certainly appear indispensable, where the force employed is of any strength ; but in the case of a small force a well posted dismounted support could perhaps more effectively defend the operation of remounting the fighting line, which body when mounted could then enable the men of the support to regain their horses. It must be remembered that a dismounted support of half a troop, properly placed, could hold its own against a squadron of hostile cavalry. Were the same support mounted it could not stand for a moment against the attack of a squadron.

On the other hand, it is to be urged with reason, that the force disposed as above would be much longer in getting away than if the support were mounted.

A detail connected with the dismounted service, deserving of special attention, is that the soldier when acting on foot should not be encumbered with too much equipment. In some Continental armies, the cavalry sword is left attached to the saddle when the soldier dismounts, and the bayonet, which is separately carried, taken into use. A long cavalry sword is a great encumbrance to a man about to act as a rifleman, and if extensive use is to be made of dismounted cavalry it would appear as if the sword should be left with the horse. The bayonet can hardly be required and should not be an article of equipment, as during the short absence of the cavalry soldier from his horse he should trust entirely to his carbine, and when his ammunition is expended he should quickly remount.

The employment of dismounted cavalry in minor tactical operations, adds at once a defensive power to fractions of the force of this arm, which renders its employment more than ever desirable. Cavalry which can rapidly dismount a portion

or the whole of its force, and protect itself by fire-action, possesses something of the nature of two arms, and thus becomes doubly valuable.

When to this is added the power of rapid advance to tactical points beyond immediate reach of the infantry, and of seizing these even temporarily until the arrival of supports, it is evident that the co-operation of cavalry becomes more than ever acceptable to the commander of a mixed force.

## EXERCISE XI.

## CAVALRY COMBAT. SQUADRON AGAINST TROOP.

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IDEA.\*

1. The commander of a force (Blue), the main body of which is stationed near Leyton, directs a party to be sent from Thornton to destroy the bridges on Glenfield Common. If time admits, Glenfield and Clip Bridges are to be first blown up and then Farley Bridge, but in any case it is imperative that Farley Bridge be destroyed. Chorley Bridge has been carried away by flood, the stream being much swollen by recent rains.

A troop of (Blue) hussars is accordingly directed to proceed upon this service. While the men of the troop are being assembled, and are getting their horses ready, a patrol is despatched in advance, with orders to go on to Farley Bridge and prepare it for demolition.

2. The commander of a force (Red) stationed near Danmoor purposes to advance in direction of Hatford, and is desirous of preserving the bridges that lie near Glenfield.

A squadron of (Red) dragoons is accordingly detached to secure passage of the streams at these points.

## FIRST STAGE.

*Blue.*—At the opening of the first stage, the Blue troop has arrived at Farley Hill, about 1,000 yards from the bridge. The patrol, which consists of six pioneers, and two additional men as scouts, under a sergeant, having had a quarter of an hour's start of the troop, has been at work at the bridge for some time,

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.



and has nearly prepared it for demolition with gun-cotton. The scouts, who are out on the Common, come suddenly riding back, with intelligence of the presence of the enemy on the high ground to the east.

The scouts of the troop, on reaching the spurs of the hill overlooking the stream, receive signal to this effect from the bridge; and at the same time they themselves perceive a body of troops (probably cavalry, from the appearance of the dust and other indications), descending the road between Ray and Ashdown Hills. Small groups of cavalry are apparently scouting on both these hills.

The captain of the hussars determines to push on, and, while his pioneers continue to prepare Farley Bridge for destruction, to cross over and endeavour to drive back the opposing force, with a view to carrying out the instructions he has received respecting the other bridges. Should he find himself in presence of a superior force, he will be in a better position on the farther bank to cover the operations of his pioneers, than if he remains on the near bank. The Blue troop accordingly quicken its pace for the bridge.

*Red.*—The squadron consisting of A. and C. troops has just entered the road between Ray and Ashdown Hills, exactly one mile from Farley Bridge, when the scouts on the advanced spurs of the hills report ‘a small party of the enemy at the bridge;’ then immediately afterwards, ‘cavalry scouts on Farley Hill and dust of a small column to be seen farther off in the distance.’

The commander of the dragoons immediately determines to endeavour to secure two of the bridges. C. troop, which is in rear, is directed to detach itself and move by ‘Five Roads Cross,’ on Clip Bridge, A. troop continuing to advance on Farley Bridge.

The pace of both troops, moving in columns of fours, is quickened to a smart trot.

#### SECOND STAGE.

*Blue.*—The Blue commander on arriving at Farley Bridge is informed by his scouts of Red’s strength and the disposition of his force. The troop crosses the bridge, while the pioneers continue to prepare it for demolition. The sergeant reports to

the commander, as he crosses over, that the bridge will be ready to be blown up in three or four minutes.

One half of the troop goes to the front at a trot forming into line for attack, while the other half-troop supports, about 300 yards in echelon to the right rear. This formation having been assumed, the Red dragoons are perceived about 600 yards off advancing towards the bridge, and the leading Blue half-troop moves off at a gallop to attack them supported by the rear half-troop.

*Red.*—The troop advancing upon Farley Bridge still keeps in column of fours and preserves the trot until it reaches the Glenfield Road, which is about 800 yards from Farley Bridge. Here the scouts meet the commander with intelligence of the arrival and strength of the Blue cavalry. The dragoons form line for attack, and quicken the pace to a gallop on perceiving the hussars about 600 yards to the front.

The ground, which slightly undulates and slopes towards the stream, prevents the Red commander from seeing Blue's support, and the strength of the half-troop opposed to him (only twelve files of front) appears so inconsiderable, that he does not retain any portion of A. troop in support.

#### THIRD STAGE.

*Blue.*—The leading half-troop of the Blue hussars meets the Red troop in the charge at a point about 400 yards from the bridge, and the superior force of Red drives back Blue. But the other half-troop of hussars, coming up in support, falls upon Red's left flank at the critical moment when he is shaken by the effect of his charge, and forces the dragoons to retire in disorder.

*Red.*—The charge of Blue's support has disorganised A. troop, as shown, when the captain of C. troop, who has just passed Five Roads Cross on the way to Clip Bridge, and perceives the engagement taking place, decides to go to the assistance of the beaten force. This he is the better able to do, as his scouts report that there is no sign of an enemy near his own point of direction, Clip Bridge.

C. troop accordingly wheels round to the right and advances at a gallop, in echelon of half-troops from the right, to the scene of combat.

## FOURTH STAGE.

*Blue.*—The hussars endeavour to re-form after their success, but have hardly done so before they are attacked by fresh successive Red half-troops, with the result that the Blue formation is completely broken. The hussars, with difficulty, retreat over the bridge, which by this time has, however, been prepared for demolition by their pioneers.

As A. troop of the dragoons, which has now re-formed, advances in pursuit, the bridge is successfully blown up by Blue. Several of the hussars are cut off and made prisoners, but the rest have had time to recross before the bridge is destroyed.

*Red.*—After the action thus described, by which the hussars are driven over the stream with loss, without the bridge being, however, saved from destruction, the dragoons move on to Clip Bridge. Here they receive intelligence from their scouts that Chorley Bridge no longer exists, and that the stream is so swollen as to be impassable at any point north of its source at Fpring Wood. All passage to the west from Glenfield Common is thus found to be interrupted, and intelligence to this effect is immediately transmitted to Head Quarters at Danmoor.

## OBSERVATIONS.

In this Exercise, Blue has a manifest advantage in being so much nearer to the bridge, the common object of both sides, at the instant that each force detects the other's presence. This advantage he improves by judiciously determining to cross the bridge and give battle on its farther side, notwithstanding a possible and even probable superiority in numbers of the enemy. Still more is his success due to the fact of his observing the almost universal rule, of keeping a portion of the force in support while launching the other at the enemy.

The commander of Red's leading troop committed the grave error of trusting entirely to a single stroke with his whole strength; a mistake that was only eventually retrieved by the promptitude with which the other troop came to his assistance. But even thus Blue was not prevented from carrying out his object of destroying the bridge, though he suffered much loss in the operation.

Had the commander of A. troop made his attack in the first instance by successive half-troops he would probably, the slope of the ground being in his favour, have been successful in both charges, and might have driven Blue back over the bridge before its preparation for destruction could have been completed, thus effectually securing the passage over the stream.

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## EXERCISE XII.

CAVALRY COMBAT. SQUADRON AGAINST TROOP, THE  
LATTER PARTLY DISMOUNTED.

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IDEA.\*

1. A force (Red) has just posted its outpost line of observation on Wiley and Churton Hills facing north. The enemy (Blue) is believed to be somewhere in the neighbourhood of Wyverne or Northam, but accurate information as to his strength has not yet been obtained and is much desired.

About 4 P.M. a spy brings in news to the effect that three men (Blue), one of them a commissariat sergeant, are at Garrads Cross, in charge of forage, which has been collected at that place, and is about to be removed to Northam at daybreak. The men are said to have orders to show themselves as little as possible, and to keep concealed should the enemy's patrols appear.

The commander of the Red outposts decides to attempt the capture of these men, in order to obtain from them the desired information. A strong patrol, consisting of a troop of dragoons furnished from the reserve of the outposts, is accordingly ordered to proceed to Garrads Cross with this object.

2. On the same afternoon a convoy (Blue) of empty carts, got together at Northam and the vicinity, is on the march to Garrads Cross, with intention to halt there for the night and return in the morning with the forage.

The convoy is escorted by two companies of infantry and a

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.

squadron of lancers. The squadron is in advance and the infantry marching with the carts.

#### FIRST STAGE.

*Red.*—Captain W., with whom is Lieutenant M., is in command of the troop, which consists of 48 men with a proportion of non-commissioned officers. Leaving the reserve at 4.30 P.M., the troop, preceded by an advanced party of a sergeant and eight men acting as an advanced-guard, passes through the line of sentries, by the road traversing Holm Woods, at 4.40 P.M., and reaches Stanton Bridge at 4.56 P.M., the pace being only five miles an hour in order to save the horses.

Halting at the bridge the commander notes that it presents a favourable position for making a stand, should he be pressed in retreat. At about 100 yards on the near side of the bridge, the road to Minton branches off from the main road to the right, running for some distance parallel to the river bank, which here bends round to the south-east. At the fork made by the two roads, and between them and the river, is a small wood, which borders the Minton Road for 200 yards, and, being three-sided, has one of its short sides facing Stanton Bridge. On the opposite side of the main road is a space of open grass-land forming the north slope of Yatton Hill, which extends for half a mile along the river as far as Yatton Bridge. The right side of the road thus presents cover for concealment, and the left side fair galloping ground, fit for cavalry movements.

Before crossing the bridge the commander consults his map, and determines to take the troop round by the lower river road as far as Triangle Wood, in order to avoid possible observation in crossing the high ground of Gorsham Hill, the road over which would be the direct route to Garrads Cross. He directs two intelligent men of the advanced party to be sent up to Windmill Hill as a flanking patrol. Signal is to be made from the hill to the scouts of the advanced party on the lower road, as soon as the flankers are satisfied that the way is clear. The flankers are then to ride cautiously on to Gorsham Hill to reconnoitre the north side of the heights, one of the men keeping the troop in view, as it proceeds along the lower road, while the other man looks out for the enemy. The patrol is to re-join the advanced party at the point where three roads meet between Triangle Wood and Garrads Cross, to make report of what has been seen from the high ground.



The troop then proceeds to Triangle Wood, arriving there at 5.10 P.M., and halts; its advanced party also halts at the junction of the three roads. The men of the flanking patrol here re-join, reporting that they can see no sign whatever of an enemy in any direction. Captain W. and Lieutenant M. ride up to the advanced party, leaving the troop at the wood.

*Blue.*—The squadron of lancers under the command of Captain X. is in advance of the convoy marching south along the East Enton-Garrads Cross Road.

It is preceded by an advanced party of twelve men under a sergeant acting as an advanced-guard; two scouts and a corporal lead as point, and flankers are out on either side of the advanced party. The point is only about 400 yards in front of the leading section of the squadron.

#### SECOND STAGE.

*Red.*—The place where three roads meet, at which Captain W. and Lieutenant M. have joined the advanced party and received the report of the flanking patrol, is about 600 or 700 yards from Garrads Cross. Captain W. has been informed that the men who are to be carried off are quartered in the first house to the left, a small one, at the south entrance to the hamlet. He details Lieutenant M. with the advanced party, a sergeant and eight men, to effect the capture. The farrier, who is an active, powerful man, is also added to the party. Lieutenant M. moves off towards Garrads Cross preceded by two scouts, a flanking patrol of two men being also detached to a hill on the right to give instant signal should the enemy come in sight. The troop follows under Captain W. at 300 yards distance.

At 5.15 P.M. the advanced party arrives at the house described by the spy and surrounds it. Nothing is seen of the Blue soldiers, but they have probably been warned by the inhabitants of Red's approach. After some difficulty the door is opened, and the owner of the house is forced to acknowledge the presence of the men. Under threats of compulsion the two soldiers are surrendered, the villagers assisting to bring them out, but the commissariat sergeant is declared not to be there. Upon this the sergeant and farrier dismount and entering the house succeed in finding the man hidden in a loft. He is immediately mounted on one of the spare horses brought for the purpose, but throwing himself off and declaring he will

not ride, he is obliged to be placed behind the farrier and strapped to the horse. Meantime one of the other men tries to escape and is shot in the attempt. The third is placed on a spare horse, and the party prepares to return after a delay of some five or six minutes, the prisoners being placed in the centre of the troop, which has halted a short distance from the house. At this moment the flankers on the hill near Hanley Wood signal 'enemy in sight,' evidently, from the direction indicated, upon Redburn Hill.

Captain W. immediately gives the order to retire. The troop goes about, and with the prisoners in the centre starts off at a trot, towards the three roads. The former advanced party drops behind as a rear-guard, the flankers coming in from Hanley Wood.

The commander now gives the word to gallop; but owing to the farrier's horse, which is carrying a double load, being unable to keep up, the trot is almost immediately again obliged to be resumed. On reaching the three roads the leading section is directed to turn to the right, and the troop directs its march straight upon Stanton Bridge by the hill road.

*Blue.*—The point of the advanced-guard has reached the enclosure of the Manor Farm, when the leading man catches sight of Red cavalry at Garrads Cross. He immediately signals the corporal who is in rear. As the corporal comes up, he makes sign to the left flankers, who are on the east side of the farm, to ride on to the crest of the hill in their front, and look out. On coming abreast of the farm on the main road, the corporal clearly makes out not only the party at Garrads Cross, but the troop halted on the road a little farther off. He instantly sends back intelligence to the squadron.

Captain X. is 400 yards to the rear with his squadron, marching along the East Enton Road. On receiving the news he gives the order to trot out. His advanced party has already got on to the Manor Farm and is trotting down the hill towards Garrads Cross. The Red troop is seen in full retreat, a distance of about 1,400 or 1,500 yards separating it from the Blue squadron.

When the advanced party reaches Garrads Cross, the leader learns in a moment what has occurred, and sees the body of the man who was shot. He sends back word to Captain X., who is close in rear. Captain X. gives orders to pursue and retake the prisoners. The Blue squadron passes through Garrads Cross

without halting, and, cutting off a corner of the road, gallops across the open ground. On reaching the three roads the trot is again resumed, Captain X. advancing up the hill with some caution, his scouts and advanced party first examining the high ground.

### THIRD STAGE.

*Red.*—The commander pushes on over Gorsham Hill as quickly as possible.

He sees he has got five or six minutes' start, but that he is being pursued by a much larger force than his own. Captain W. accordingly decides to make a stand at the bridge, and gives his orders to Lieutenant M. as they go along.

On passing over Stanton Bridge, the troop turns sharp on to the branch road leading to Minton, and halts behind the wood already mentioned. The prisoners are sent on, the farrier in charge of the commissariat sergeant, a dragoon leading the spare horse upon which the other man is mounted, and a sergeant to ride behind with a pistol ready in case of an attempt at escape. They are to pass over South End Bridge and get in- side the outpost line as quickly as they can.

Half the troop is told off for dismounted service under Lieutenant M., and furnishes twelve men with carbines, who immediately push through the wood to its northern edge and take post in line carefully concealed, just inside the border, facing and thus commanding the bridge at 100 yards distance. The rear-guard remains mounted at the bridge, with strict injunctions not to let a single man of the pursuing cavalry pass over until the main body of the squadron comes up. The horseholders of the dismounted party, eight in number, keep the horses behind the wood on the road, near the Minton end of the wood. The mounted half-troop is drawn up on the Minton Road in support, hidden by the corner of the wood. It faces the main road, which at this part is wide and will admit of the advance of a small party (ten files or so) in line.

These arrangements are completed in four minutes from the time the troop arrives behind the wood. The leading scouts of Blue now come up to the bridge and attempt to cross it, but the Red rear party keeps them back. Blue's advanced party then tries to force a passage; but the Red group gallantly meets it on the bridge in a hand-to-hand encounter, and succeeds in stopping its advance, until two minutes later the leading

section of the squadron, which comes down the road by Stanton Farm at a rapid pace, reaches the bridge. The Red rear party, in pursuance of orders it has received, instantly breaks before Blue and clears away down the main road. It has lost one man killed, and another is severely wounded.

*Blue.*—When the squadron gets up to the plateau of Rainham Hill, it leaves the road and again breaks into a gallop which it maintains till the crest of the hill overlooking Stanton Bridge is reached. At the commencement of the pursuit the Red troop has had about six minutes start, and the Blue cavalry has gained somewhat upon it by superior pace, but has also lost distance by the check on ascending Rainham Hill, so that on the whole the Red troop may be said to have still about five minutes' start when the Blue squadron has got to the south crest of Rainham Hill.

Blue's flankers are on Windmill Hill, but they can see nothing of Red, as the main body is behind the wood and the prisoners have by this time got down into the valley near South End Farm.

The leading scouts and advanced party are on in front of the squadron and are just gaining the river. They see a party at the bridge which they not incorrectly take for the rear-guard about to dispute passage. They charge Red; but in the confined space the combat becomes personal, and the lancers do not succeed in getting over the bridge for the intervening two minutes that elapse before the head of the squadron reaches the spot.

Captain X., who is leading his squadron, also thinks the small party of Red at the bridge is about to sacrifice itself as a rear-guard, in order to gain a little time for the retreat of its main body, and he sees nothing whatever to make him suspect an ambush. He relies on his scouts, and he does not mark, as he rides eagerly down the slope of the road, that not one of his advanced party has got over the bridge, and that he has not a single scout on the south side of the river. He only sees a paltry opposition to his passage at the bridge which his squadron will easily overcome, and he rather quickens the pace than holds the men back.

#### FOURTH STAGE.

*Red.*—As the first section of the Blue squadron gets over the bridge and the chief part of the leading troop is upon it, the

Red group giving way, fire is suddenly opened upon the lancers by Lieutenant M.'s party in the wood. Several of the men of the leading sections fall, the Blue commander himself is wounded, and the greatest confusion occurs; the riders pressing over the bridge in rear being unable to prevent their horses from tumbling over the fallen lancers in front, thus helping to block up the road.

The Blue commander, apparently seeing that the only chance for his force is to disengage it from the bridge, and that the ground to the west along the river bank is open, shouts out to his men to push on over the bridge and to wheel to their right on to the open ground. Several of the leading men have already crossed and have got on to the open. The remainder, urged by the voice of the commander and by the other officers, also pass over, but not without some difficulty and much loss. They endeavour to re-form their broken ranks under shelter of the slope of Yatton Hill, some 300 or 400 yards from the fatal bridge.

As soon, however, as the principal portion of the lancers have crossed the river, the mounted Red half-troop issues from its cover behind the corner of the wood, led by Captain W., wheels to the right along the main road, then again to the left when clear of the fence up Yatton Hill, and, breaking into a gallop, charges the yet unformed lancers who are about 300 yards off.

The smoke from the fire of the dismounted party in the wood which is hanging about the road favours this movement, and the Red cavalry are not perceived till they are bearing down at full speed upon Blue.

Lieutenant M. now remounts his party and advances to Yatton Hill, in support of the leading half-troop.

The lancers, however, do not attempt to retaliate, being completely broken by Captain W.'s charge.

*Blue.*—Captain X., though severely wounded, is endeavouring to rally his men on the river bank when the attack of the Red half-troop thus described takes place. The effect of the steady charge of the compact although small force of dragoons, upon the already disorganised ranks of the lancers, is so great that Captain X. does not attempt to turn upon his adversary, but draws off his men to re-form in the direction of Yatton Bridge.

#### FIFTH STAGE.

*Red.*—The leading half-troop rejoins the one in support, and  
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both continue their retreat by the main road with all speed, passing through Holm Woods at 5.54 P.M.

On reaching the line of sentries the commander slackens speed, and finally arrives at the post of the reserve at six minutes after 6 P.M. Here he finds the prisoners have already been handed over in safety, by the sergeant who had them in charge.

*Blue.*—The lancers return to Garrads Cross, a patrol being left behind to reconnoitre the position from which the dragoons have come. On arriving at Garrads Cross, where the infantry have by this time established themselves, Captain X. reports to the Major in command the unsuccessful result of his pursuit and the probable proximity of the Red troops. The forage is accordingly ordered to be removed at once, while it is still possible to secure it without further reinforcement.

#### OBSERVATIONS.

In this Exercise an illustration is afforded of the increased power which cavalry derives, by employing a portion of its force on dismounted service when occasion presents itself.

In the execution of the service for which the Red troop was detailed, the commander made no mistakes.

On the other hand, the Blue squadron should not have crossed the bridge until the cover on the other bank had been examined; but the immediate fault lay rather with the leader and men of the advanced party than with the commander of the squadron, who trusted to his scouts and received no warning from them.

The instant that the leader of the Blue scouts found the bridge barred to his advance, he should have halted the squadron in his rear. A party would then have been sent on to his assistance from the squadron, which, united to the advanced party, would have either forced a passage, or drawn the fire of the Red dismounted party, in either case discovering the ambush and saving the main body of the squadron from loss and defeat.

# PLATE XX.

Cavalry Combat.  
Squadron against  
Troop the latter  
partly dismounted.

Third Stage.







## CHAPTER X.

## ATTACK AND DEFENCE OF THE THREE ARMS.\*

## THE THREE ARMS IN COMBINATION.

THE commander of a force of the three arms acting independently, should have the clearest possible conception of the general objects which it is intended he should carry out, in order that when he comes in contact with the enemy he may form a correct decision as to whether he should attack or act on the defensive.

Should his position and means at command be such as to allow of either course being pursued, the preference should generally be given to the attack, in order to secure the undoubted moral advantages which attend this course of action.

But if the nature of his position and resources necessitate his assuming the defensive, he should seize upon the first favourable opportunity of turning the defence into the attack.

Whether, therefore, as an initial proceeding, or taken up only for a time during the progress of an engagement, the defensive should be employed as a means to an end, the better to assure success when the offensive is finally assumed.

\* As the organisation of artillery does not enable it to undertake operations alone, its tactical action is treated under the head of Attack and Defence of the three arms.

## THE THREE ARMS IN ATTACK.

The commander who takes the offensive initiative has the advantage of choosing the time and within certain limits the place of attack, his adversary having as it were to await his pleasure on both these points before the final arrangements for defence can be made.

The assailant can move his force in any direction either for the purpose of real attack, or to deceive the enemy by demonstrations or false attacks, while at the same time he can push his troops in force against a weak point of the position. The very fact of attacking gives also moral force to the men, who will always suppose that their commander considers them superior to the enemy, and, in advancing, a force leaves its killed and wounded behind, passing out of reach of demoralising sights and sounds.

On the other hand, the assailant has to attack on ground chosen carefully by the enemy, which therefore rarely presents advantages to the attacking force.

As ground, however, cannot be made to order, the attacking commander should look out for any accidental conditions which may be turned to his benefit. High ground within artillery range of the position, from which he can bring his guns to bear with superior fire as a preparation for attack, would be very important.\* Or if the country is at all enclosed, or even undulating without enclosures, it can hardly happen that there are not sheltered places, affording some sort of cover for troops, near to the position, which would at all events enable a portion of the assailants to take part in the attack without overwhelming loss.

In offensive tactics we may consider three general modes

\* It should, however, be understood that high ground is only advantageous for artillery inasmuch as it enables the gunners to see distant objects. Otherwise the best ground for artillery is that which enables the path of the shells to be as nearly as possible parallel to the surface of the ground. Thus at long ranges guns placed low would sweep the reverse side of an enemy's position on a hill.

of attack, one of which the commander of a combined force must select, as the most suitable for his purpose.

1. **FRONTAL ATTACK**, which would mean a direct advance upon the whole of the enemy's line or position.

As a general rule, this form of attack is unadvisable, as even in case of success, the result is not decisive ; the enemy's line of retreat being unassailed, he simply falls back to a position more to the rear. There may, however, be situations where the nature of the ground prevents any other mode of operation, or where the frontal attack may be made use of to feel the enemy and ascertain his exact dispositions, in preparation for a concentrated attack upon one of his weak points, as soon as they are discovered.

2. **COMBINED ATTACK UPON FRONT AND FLANK.**

In this case the enemy is attacked in front at the same time that a portion of the force is directed at one of the flanks. An attack upon the flanks by itself unaccompanied by a frontal attack is not advisable, except in the case of small detachments acting against one another, or unless the attack can be effected by surprise, in which case the enemy is unable to meet it in time by a change of front. Were a strong force in position attacked solely on the flank, it would quickly form up its reserves to a new front, the troops of the original front coming up in support. For a flank attack therefore to succeed, it must, as a general rule, be accompanied by a frontal attack, sufficient to hold the enemy to his original position.

An attack upon both flanks combined with a frontal attack can only be attempted under circumstances of great superiority of numbers, without which it would become a most dangerous operation, enabling the enemy to give the counter-stroke at a weak point of a straggling line and beat the assailants in detail by cutting their force into two.

In small engagements where the numbers are inconsiderable we have said that the flank attack may be made alone. In such case a consideration may arise as to which flank it may be most desirable to attack, where one presents cover for concealing the movement, and the other, though offering no

cover, is nearest to the enemy's line of retreat, which might thus perhaps be cut off. Surprise being here the element most essential to success, as carrying with it the greatest moral effect, the flank should certainly be chosen which affords the means of approaching unobserved, even though the result of action in this quarter may not be so decisive as it would be in the other.

Should the attack be of greater dimensions, the element of surprise, and consequently the question of a covered approach, become of less importance. Here an attack upon the flank nearest the enemy's line of retreat would give best results, as being more decisive, so that, other considerations being outweighed, this course of action would probably be adopted. The moral effect of threatening the enemy's communications would also in this case count for something.

Sometimes the movement against a flank should constitute the real attack, that against the front being only sufficiently maintained to hold the enemy in position, and prevent his concentration on the threatened flank. Here the frontal attack has all the advantages of the defence together with the moral advantage of an expected diversion to be caused by the flank attack. The nature of the ground would influence the adoption of this mode of attack, but in any case it would be prudent not to follow it unless the attacking commander, if unsuccessful, could still cover his line of retreat in falling back, or unless, as may happen on occasion, he could afford to retreat in a new direction and abandon altogether his old line of operations.

3. CONCENTRATED ATTACK UPON A WEAK POINT, to break through the enemy's line or force his position.

This mode of attack, if the most difficult of execution, is undoubtedly in case of success the most decisive, the enemy being broken into fractions which can subsequently be beaten in detail. The enemy's line of retreat may also thus be arrived at, and his communications cut before he can recover himself. The attack must, however, always be made with force sufficient to resist a counter enveloping attack on the part of the enemy, which might otherwise be disastrous

in its results. The increased range of modern guns and rifles has made this attack more hazardous than ever, for a concentrated fire-action can now be brought to bear on the assailant, not only from all parts of the defence in his immediate front, but in most cases from either flank as well. Unless therefore the ground covers the movement in a great degree it should not be attempted.

In addition to the above primary modes of attack, a **TURNING MOVEMENT** may also be considered. This might be looked upon as almost a form of flank attack were it not that it differs from it in some essential particulars. The turning movement is more often a menace than an attack, for it threatens the enemy's line of retreat so as to force him to change front or shift his position before he enters into combat. The manœuvre differs also from a flank attack inasmuch as it removes the scene of combat from the position held by the enemy, while the flank attack takes place on one of the flanks of the position itself.

The turning movement may be made, either with a portion of the force at command, or with its whole strength.

In the *first case*, the conditions should render it improbable, if not impossible, that the enemy could act offensively in turn upon each fraction of the divided force. Otherwise the separate movement should not be attempted, as it must end in disaster.

When the ground permits, or is favourable, cavalry and horse-artillery are specially suited to the turning movement. They would therefore nearly always form a portion and sometimes the whole of the troops employed on the service, both because they can by rapid advance produce the moral effect of surprise, and because they can more easily avoid destruction by a superior force.

The relative proportion of the force detached, in such case, upon the turning movement, to that retained for the frontal attack, can only be decided by the circumstances.

If the line of retreat of the assailants must necessarily be preserved in rear of the main body the latter must keep the largest amount of force ; if the retreat can be made equally

well to the flank, the strongest force may be detached for the turning movement.\*

It is evident that this mode of attack, by which a portion of the force is detached from the main body, is not generally suitable for minor operations ; there may be occasions, however, where a small force may with great advantage detach its cavalry and horse-artillery, to threaten the adversary's communications.

In the *second case*, if the turning movement be made with the whole force at command, it is clear that the former line of retreat must be abandoned altogether, or else there should be such complete probability of success that the line may for the moment be laid open to the enemy, for the sake of concentrating the whole force in the attempt to turn his position.

#### FIRST STAGE OF THE ATTACK.

The above general principles being clearly understood, the commander of a small force of the three arms should have no difficulty in preparing his plan of attack and issuing his orders, upon receiving reports of the strength and dispositions of the enemy, and of the nature of the ground upon which he must act.

In ordinary cases when small forces are engaged, the cavalry reconnoiters in advance will bring in sufficient information for the purpose ; but if the enemy should be covered

\* In either case it is very desirable that the detached commander should have considerable latitude afforded to him in the instructions he receives from the commander of the troops. These instructions should be to the effect that a certain result is to be, if possible, attained, and should also contain all information necessary to enable the detached force to act in general concert with the main body. But precise orders which may be rendered impossible of execution would only tend in all probability to mar the enterprise. To give such would be to fall into an error which has been freely laid to the charge of both English and French generals at various epochs. The Germans are said to be free from it. The Russian operations in Asia during the late war showed conspicuously, on different occasions, both the fault and the avoidance of it.

by advanced troops, it may be necessary to make a special reconnaissance, sometimes supported by guns, in order to arrive at a knowledge of his strength and intentions.

With large forces this would probably be carried out by the advanced-guard, the artillery of which, reinforced when necessary from the main body, would take up what may be called a *preliminary artillery position*, and open fire at long range to cover the advance of the troops employed in the reconnaissance.

The information required being obtained, the commander would issue his orders. In the case of very small operations or of a sudden rencontre with the enemy these would be given verbally; under other conditions orders should, if possible, be written.

Should the force, as it probably would, consist of detachments under various commanders, it would be necessary that there should be a *general order* for all, and also a *special order* addressed to each commander where separate action is required.

The general order should be clear, precise, and complete, and as short as strict compliance with these requirements will permit. It should contain :

1. The conditions or circumstances of the intended action, with what is known of the enemy ;
2. The mode of action determined upon and how to be undertaken ; thus, for instance, to attack the enemy when he is touched on in direct advance, or, to attack the whole, or a certain named part, of a position ;
3. The strength, composition, and general division of the attacking force, with names of commanders ; this may be given more in detail in the margin of the order if thought necessary ;
4. The preliminary positions to be taken up by each distinct part of the force with their directions of attack ;
5. The hours at which these positions are to be assumed, and at which the forward movement or attack is to be commenced ;
6. The position where the commander of the troops will

be found during the action, to which all information or reports are to be made or sent.

These changes would be sufficient for a small force, but, in operations of greater magnitude, it would be necessary to add :

7. The positions of the ambulances and field hospitals, and the order of march of the trains of the various columns.

It must be understood that the dispositions of the troops thus indicated are only intended for the first phases of the engagement, for until the enemy's counter-plans are developed the final movements which depend thereon cannot be defined.

The special orders addressed to separate commanders should contain nothing that may tie their hands too much in matters of detail. As a rule they should be told the thing to do, not the manner of doing it, and within certain safe limits, to be named, they should be allowed free action.\*

In apportioning the reserves for the different arms the commander of a combined force may accept the following as a main principle, modifying its application according to the special conditions of the case. The various arms require reserves in exact proportion to their respective liability to fall into confusion during action. Therefore a reserve is most necessary for cavalry, next for infantry especially when attacking, and hardly at all for artillery which has no shock action. But although a reserve of guns may not be required, the artillery should certainly have reserves of men, horses, and ammunition. With such aid the guns can be withdrawn from action in one part of the field, and sent rapidly to another as required.†

During the progress of the earlier arrangements for the engagement, which may be said to constitute the first stage, and if no affair of advanced troops has taken place, the reconnaissance of the enemy and ground would be kept up by the cavalry, whose preliminary reports have enabled the commander to decide upon his first course of action. Great

\* *Vide* note *ante*, p. 264.

† *Vide* article in *Nineteenth Century* for July 1878, already referred to p. 88.



care should be taken that there is no confusion in forwarding the reports of the patrols, and that their leaders clearly understand where they are to send them.\* The position of the commander of the troops, as mentioned in the 'orders,' should therefore be impressed upon each patrol leader, whose duty it will be to see that every man sent back with a message distinctly understands where he is to deliver it.

#### SECOND STAGE OF THE ATTACK.

The reconnoitring would be continued into the second stage, which would commence by the opening of fire by the artillery from its first position for attack. Should a preliminary position have been assumed by the artillery, it would probably have been under the circumstances above shown, or else necessitated by the opening of the defender's fire at long range upon the heads of the advancing columns, in ground where they could not obtain shelter; in which case the advanced guns would at once have taken post to open fire in reply.

In either case, on the dispositions for infantry attack being made, this preliminary position would be quickly abandoned, and the guns moved on to the *first principal artillery position*. In its selection it must be remembered that the first part of the engagement has for its object the more complete discovery of the enemy's plans and strength, as well as to cause him as much loss as possible from the moment he can be brought under fire. The guns, accompanied by the necessary supports, should therefore be pushed well to the front, and come into action at a point selected with due regard to the direction of infantry attack, so far as known at the time, and at a range of from 1,800 to 1,300 yards from the enemy's general position. The place chosen ought not to be such that the advance of the attacking infantry will soon mask the fire of the guns, and if the ground and the general form of the action permit, a position to a flank will be usually preferable. The artillery need only be protected by cavalry or by a small

\* Form of report given p. 130.

force of infantry on its exposed flank. The especial danger to be feared would be the unobserved approach of the enemy's skirmishers or marksmen within effective range.

In the case of large forces, the guns would probably be massed in one or two strong batteries. No reserves need be kept back under ordinary conditions, but all the available guns, deducting any required for a flanking movement, should be quickly brought into simultaneous action.

The object being to cover the advance and deployment of the infantry, and to draw the fire of opposing batteries, it follows that a sort of artillery duel will open and continue the engagement, until the attacking infantry come up to effective rifle range of the enemy's position, and the third stage of the action is entered upon.

### THIRD STAGE OF THE ATTACK.

The tactics of the infantry would now, with a view to forcing the enemy to show his dispositions clearly, be directed to covering much ground with as few men as possible in extended order, the main bulk of the force being kept in small columns. If, however, there are important points in advance of the position, which it appears desirable to possess, they must be rapidly attacked by the infantry, without any preliminary demonstration of force.

If any high ground, in the course of the advance, comes within reach, from which the enemy's dispositions can be seen, it should be immediately occupied by the assailants, even though not in the direct line of attack. In default of high ground, which is not always to be found, a church tower, a high-roofed house, or even a tree, may be turned into a post of observation, by an intelligent officer.

So far the original dispositions for attack may be probably followed without much deviation ; but once the action can be said to have commenced, circumstances often compel the commander of the troops to change his operations.

For the purpose of watching the phases of the combat, the position which the commander should assume during the

engagement ought if possible to be on an eminence, from whence he can perceive the principal portion of the ground over which the troops are to work.

He should not quit this post (duly announced in the 'orders') without exceptionally good reasons, and if he is obliged to do so, an officer should be left behind to direct all reports or messengers to the new station of the commander. These injunctions are of much importance, as nothing can be more demoralising, during an engagement, than to see officers and orderlies galloping about wildly to look for the commander and asking every one where he is to be found.

When the extent of ground to be passed over by the troops is great, it is often difficult to find a suitable position, whence the commander can observe the enemy's front line, and yet be not too far advanced to lose immediate direction and control over the reserves, which it is so important he should keep in his own hands. If no place can be selected meeting all requirements, the commander must post himself at the most central and important, and detach two or more officers, in whom confidence can be placed, to other parts of the field, with directions to keep him constantly informed of what is passing. Sometimes it may be necessary to provide for a change of the position of the commander during the action, in which case it should be notified that he will start from a certain spot on a central route, and advance along it from time to time. Some one must, however, always be left at the first position or starting point to direct inquirers or messengers.

The orders which are necessarily transmitted during an action by the commander of the troops, are of much importance, and should be given with great care. They should, if possible, be in general harmony with the original plan of attack, although certain modifications may become necessary. They should not descend to details which are better left to commanders of corps, nor should the commander of the troops interfere in the execution of his orders, further than to assure himself that they are carried out. He should be satisfied on this point by means of constant reports and communications

which must be kept up, without interruption during the action, between him and the commanders of separate corps and detachments. When the reports cannot be sent by an officer, they should be written, and in such case numbered and dated with the exact hour and minute of despatch. Above all other matters it is most important that the commander of the troops should be immediately informed, when circumstances render it impossible for a subordinate commander to carry out his orders or instructions, as the failure to execute these may necessitate modifications and fresh orders to replace the former ones.

By the end of the third stage it may be presumed that the enemy has been forced to show his hand sufficiently for the purposes required of determining the best method of finally attacking him, and the commander's main dispositions are either directed to be carried out in their original design or else modified to suit new ascertained conditions.

The artillery, which up to this time has continued from its first position to support the general advance, by endeavouring to silence the enemy's guns and to draw off his fire from the infantry, is now directed to concentrate its fire upon the intended point of attack in order to prepare the way for the infantry assault. The moral effect of this fire upon the defenders will probably be very great, even if the physical effect upon troops partly behind cover of ground and obstacles be comparatively trifling.

The infantry at this period, although not yet so far committed that they cannot be disengaged, or their direction of attack diverted, have strengthened their leading line, which has advanced well within the zone of effective rifle fire. The reserve is at such distance that it can either reinforce the original line of attack when required, or else be brought up rapidly in part to support a sudden change of direction, should the best point of attack be only now developed.

Whenever the ground will admit, the infantry are supported on the flanks by cavalry, which advances under cover in small columns, with strong supports close at hand,

losing no opportunity of attacking any advanced troops of the enemy and warding off adverse attacks in return. The very fact of the cavalry occasionally showing itself on the flanks, gives confidence to the attacking infantry, and demoralises the defenders, especially if they are themselves deficient or weak in that arm.

#### FOURTH STAGE OF THE ATTACK.

The fourth stage is now commenced, by the infantry being finally launched at the selected points of attack, and it comprises the whole of the real action up to the moment which immediately precedes final success or failure.

The infantry here plays the principal part. It is fairly committed to the fight, and having received its last impulse in the desired direction from the commander of the force, no power can alter or recall it, for good, during the remainder of the engagement. Its development of fire-action should rapidly increase as it nears the point of attack, for upon its weight of fire depends its success.

The cavalry on the flanks should be now on the watch, not only to protect the infantry flanks of its own troops extended in the advance, but also to seize opportunities of approaching unseen the flanks of the opposing infantry or artillery, and of throwing them into disorder or demoralising them, if not inflicting serious injury. If repulsed and in its turn disordered, it must rally under the protection of the other arms, and again return to exercise similar functions. But cavalry at this stage can only play a minor part, unless the ground be more than usually favourable to its action ; with the exception, therefore, of strong supports to the cavalry acting on the flanks, the remainder of this arm would still be kept in reserve, but not so far to the rear that it could not be brought up quickly, if required to make a diversion or demonstration on either flank.

The artillery, which, during the former stages, has been of first importance on account of its long range, now falls into the second place. The circumstances of the case must

determine, whether it shall keep up its fire on the enemy's guns to relieve its own infantry, or whether it shall fire on the enemy's troops. As the rule to be followed, in, that it shall fire on that arm of the enemy which is for the time the most important, the enemy's infantry will, in all probability, be now the objective. In either case, a moment may arrive during this stage, when a second position more in advance is necessary for the guns, on account of their fire becoming masked\* by their own advancing infantry. If a portion or the whole of the guns can, in such case, be advanced rapidly and placed in a good position (especially on a flank, whence they can add their own fire to that of the advancing troops, which are at the moment absorbing the whole attention of the defending infantry), the proximity to the enemy's line, of this *second principal artillery position*, must not be too much limited by ordinary rules of caution.† When the attack and defence are nearly matched, it is clear that the addition of a close artillery fire on either side may turn the scale, and compensate by decisive success for any loss sustained. As this close action of guns may in case of repulse lead to confusion, it would perhaps be advisable that the whole of the available artillery should not take up this second advanced position, but that a portion be held in reserve, massed in a favourable position, and kept in action all the time in support of the advanced battery.

\* When infantry is so placed as to be seriously endangered by the projectiles of its own artillery, if the latter continues its fire against the enemy, the infantry is said to 'mask' the guns. This may happen under various circumstances of range and ground.

† In naming the above the *preliminary*, *first principal*, and *second principal* artillery positions, the writer has followed the German Major Hoffbauer, to whose valuable work on the tactics of field-artillery (1876) the student desirous of further information is referred. This writer places the limit of proximity to the enemy's line for the second principal position of the artillery at about 700 yards. He quotes many instances from the Franco-German War to show that positions between 1,000 and 700 yards from the enemy may be taken up at this stage by guns, if not without serious loss, at all events with such attendant success as to justify the action taken. Colonel H. Smythe, in his R. A. prize essay of 1876, calls these three positions: first, *reconnoitring*; second, *engaging*;

During this stage such portions of the reserves of the other arms are brought up as are required, and any concerted flank attack carried out along with the frontal movement.

#### FIFTH STAGE OF THE ATTACK.

The fifth stage is generally a success or a complete defeat, but possibly may result in an intermediate issue between the two—a retrograde movement fighting; a retreat, in fact, in good order on the part of the assailants to the original position from which they had advanced.

This stage commences by the final reserves which the commander thinks fit to engage being ordered up.

In great actions, a decisive blow might now, under favouring conditions, be given by the reserve cavalry, but in smaller affairs such as we are at present considering, this force would not come into play until the moment of pursuit or retreat.

The reserves of infantry are thrown upon the decisive points, supported by the massed fire of the whole of the attacking artillery. But little distance of ground or interval of time should be allowed between the successive attacks of freshly brought up infantry. The fatal error of allowing a front line to be beaten back before a succeeding one arrives should be guarded against, and troops should be pushed on in rapid succession to carry out the forward movement, and to replace the enormous losses attendant in modern warfare upon a frontal assault; above all things, to keep up the morale of the attacking troops, by preventing a decided check in the advance at this critical moment.

If the attack is successful and the enemy retires, either before the demoralising influence of the last steady advance, or broken by actual assault, the position he occupied is quickly assumed by the artillery and a heavy fire brought to bear on the retreating troops.

and third, *deciding* positions for artillery. He gives a range of 1,000 yards, with a margin either way according to ground and attitude of the enemy, as representing the average distance of the final position from the enemy.

The reserve cavalry, which by this time has all been brought up from the rear, and probably posted on the weaker flank, is now launched in pursuit accompanied by horse-artillery, the superior mobility of both rendering their use peculiarly well suited to this service.

The commander of the troops would move forward from his station, and take his post upon the position lately occupied by the enemy, for further direction of the movements.

The infantry meantime would recover from its first confusion, re-form its ranks broken by the assault, and then furnish from its freshest troops, in all probability the reserves, a force to aid in the pursuit.

The field-batteries will also push forward and harass the enemy with their fire, when he gets out of range of the position or becomes masked in his retreat by the interposing troops in pursuit.

If, on the other hand, the final assault of the position has been unsuccessful, the attacking force must retire, covered, in open ground, by the cavalry and artillery, in close ground by the least disorganised portion of the infantry supported by artillery. The latter arm now plays an important part. It must run every risk to enable the retreat to be safely effected, until a rear-guard can be organised to protect the movement. With this view, the first position where a stand can be made close to the field of action must be taken up by the freshest of the infantry, and the guns must be posted in such manner, as not only to support the infantry, but further, to cover all the necessary dispositions for conducting the retreat in good order.

#### THE THREE ARMS IN DEFENCE.

Should the commander of a force of the three arms decide to stand on the defensive, he should take up the position most suitable for his purpose without delay, as the superiority to be attained by this course of action must result in great measure from the advantages attendant upon choice of ground.

Without entering, beyond our limits, upon the many



requirements of a good position, we may say that it should be such, from a tactical point of view, that the different arms could be disposed for defence in the manner most suitable to their action, and that there should be facilities for concealing their strength, composition, and posts from the view of the enemy, and of preserving them more or less from his direct fire during the attack.

It is also of the very highest importance that the front of any position selected for defence should be clear for view and fire, as should also be the flanks unless they rest on impassable obstacles.

Whatever may be the natural strength of a position its value as a point of shelter for passive defence, or as a point of temporary resistance for active defence, depends much upon the number and quality of the troops which are to defend it. The extent of the position should not be disproportionate to the strength of the defenders, for, if too much ground is occupied, part or the whole of the front must be weak, and if too little ground is occupied, the troops, being crowded, suffer greater loss under fire, while facility of manœuvring is impeded.

By a rough rule it may be calculated that for each yard of front to be defended five men will be required, including all arms and reserves.

The commander of the troops may thus in practice determine approximately what extent of position he should occupy, by knowing the strength of his force. If the position which appears to him the best to hold, is not unsuited for this strength, he may occupy its full extent. If his force would thus be too much scattered, he must restrict the length of his line, defending only that portion of the position which presents the greatest natural advantages of ground, and which therefore, by its possession, will best enable him to carry out the purpose of his defensive action.

#### FIRST STAGE OF THE DEFENCE.

Should the force be large and covered by advanced troops, the preliminary proceedings will probably involve

an affair of outposts, from which the commander will be enabled to judge of the force and intentions of the enemy. In minor operations his front would also be covered by small reconnoitring parties, from whose reports he would arrive at the conclusions necessary for arranging the defence. When the enemy is reported to be advancing, the commander, should the ground admit it, would probably employ his artillery or part of it in an advanced position, in order to cover the reconnoissance and enable it to be more active and daring, and to force the enemy to declare his intentions at an early period. In this forward position the guns would act much as in the preliminary position of the attack, and would in a similar manner be protected, either by cavalry or infantry on their exposed flank. When they have to retire it would usually be by a flank, and under cover of the fire of the guns of the main position so far as already placed.

During the early part of this stage the commander would no doubt be able to complete his preliminary plans for defence, and would issue his orders thereon much in the same manner as if for attack. The mode of operations indicated in the second clause of the orders\* would probably be, in this case, to await the enemy in a certain position and there to engage him with such and such intentions. In the fourth clause, the points to be defensively occupied by each fraction of the force would be detailed, and also the relative positions of each portion of the reserves.

The first stage of the defence which has commenced with the reconnoissance of the enemy, would thus comprise the selection and occupation of the position by the defenders, as well as the advanced action, if any, of the artillery, already alluded to.

Upon the selection of the ground most suitable for the artillery of the main position, will in great measure depend the exact trace of the fighting line for the infantry, and there is some difficulty in approaching this part of our subject in detail, the position for the guns so much depending

\* P. 265.

upon the circumstances of each case, and more especially upon the configuration of the ground.

The guns of the position should, however, if possible, be so placed, as to bring the enemy's columns under fire at long range, and hence they ought to command every distant approach. They should also be able to pour a concentrated fire upon the probable positions which will be assumed by the attacking artillery, and be stationed so as to sweep the ground in front of the position from the earliest to the latest moment of attack. The defence of the flanks in the case of large forces must be specially provided for.

It would therefore appear, that, unless the ground is peculiarly favourable for posting of guns in flanking positions, where without being exposed to enfilade they can bring a cross fire to bear upon the main attack, and a flanking one to protect the immediate front, the required conditions can only be fulfilled by the guns being placed in the front line, and preferably at the salients, should an irregular contour mark the front of the position.

The general distribution of the infantry would probably be in three lines: the first or fighting line of defence, the special supports, and the reserves.

If time for hasty fortification is permitted, some sort of entrenchment should be always prepared for the batteries, as even a low parapet of earth gives protection to the gunners. Great care should, however, be taken that the newly broken earth is concealed or covered in such manner from the enemy's view, that it shall not serve, as it has often fatally done, as a mark for their artillery more distinct than would otherwise be presented by the guns alone.

Shelter-trenches may also be prepared for the infantry in the fighting and supporting lines, as detailed in the notes upon the company of infantry in defence.

Neither the places prepared for the batteries nor the shelter-trenches should be occupied by guns or troops till the proper moment for action arrives.

In making these arrangements, it is of the utmost importance, to secure the artillery of the main position against the fire of the enemy's advanced skirmishers or marksmen;

and, with this view, the batteries ought to be covered in their immediate front by a line of extended riflemen, placed either in trenches or pits or behind natural cover, at a distance of from 400 to 500 yards in advance of the guns which they defend. If the battery is on a flank, this protection should also be extended for a similar distance to the flank. The infantry thus posted would remain as long as possible in position, and only retire when, at the final stages, they are driven back by the overwhelming advance of the assailants. Besides their principal function, of keeping off the enemy's skirmishers from too early approach to the batteries of the defence, these advanced infantry could often bring an irritating fire to bear upon the attacking artillery at its first principal position, and perhaps serve to prevent the guns from approaching to the most telling range. This possible action would of course depend much upon the features of the ground. Sometimes the protecting duty of the infantry in advance of the defender's batteries would be rendered unnecessary, by one or more advanced posts being held in front of the position.

The general trace of the position having been sketched out, the entrenchments, if any, executed, and all dispositions completed, the troops would be held back under cover, in such order as to be readily moved up to their posts at the proper moment. The artillery would first take post, but not too soon. No advantage can be gained by the guns of the main position opening fire upon small and scattered advanced detachments of the enemy, and the position of the batteries of the defence would be thereby prematurely disclosed to no purpose. When the heads of the enemy's columns can be discerned and are within range, so that they can be forced to deploy by fire being opened upon them, the guns should move into position. The infantry, with the exception of the skirmishers in front of the guns, or detachments holding advanced posts, should not yet be brought up from under their cover in rear of the position. They can do no good at this juncture in the front line, and their moral tone will be much better preserved by their being saved from the effects of the preliminary artillery fire.

When the artillery has occupied the main positions for guns (in the case of small forces there would probably be only one such position), there would still, should the strength of this arm allow of it, be kept in hand the artillery of reserve, which would represent what in an army is called the Corps artillery, as distinguished from the Divisional artillery attached to infantry divisions. The word 'reserve' is, however, only used for want of a better, as the action of these guns, so far from being held solely in reserve, is liable, under the conditions of modern artillery tactics, to be employed from the earliest stages of the conflict. The reserve guns should only be kept separate, in order to be ready to meet any sudden emergency of the action, to oppose surprise on the part of the enemy, or to support offensive returns on the part of the defenders.

It is impossible to lay down any rule for the exact position of the artillery of reserve. High ground near the exposed flank, provided facility of movement therefrom in case of necessity is presented by its features, would often be suitable. The guns should, however, in any case be well up to the front, so as to lose no advantage of range from the commencement of their fire. A position in rear which entails, not only a sacrifice of some hundreds of yards range, but the necessity of firing over the heads of the defending infantry, greatly to their discomfort and demoralisation, does not appear to present commensurate advantages of safety to the guns. It is evident that artillery so placed would be comparatively useless during the later stages of the defence, when once the attacking infantry has advanced so close that the fire of the retired batteries would be masked by the ground, or by the defending infantry lining the position.

Guns so placed might be useful in defending an inner line, or for supporting a counter-stroke delivered inside the position after the assault has been made, but their action would be lost almost altogether during the period immediately preceding the final attack of the position.

The previous knowledge of ranges and distances, possible to the artillery of the defence, presents a great advantage ;

but if circumstances have not permitted the gunners to ascertain them during the preliminary arrangements, by aid of range-finders or other means, the earliest portion of the artillery action must be utilised to obtain correct estimates of the ranges to all important points, by means of trial shots.

There are certain points or portions of all positions, the possession of which would assure the assailant the greatest tactical advantages. In many cases also the conformation of the ground appears to limit the movements of an enemy to certain lines of operation.

The defence should therefore occupy these parts of the position in force, with supports in close proximity, while still preserving the general line. Under the second condition, the force should be prepared to resist advance by rapid reinforcement at any of the possible points of approach.

The reserves of the third line should be placed so as to be available for strengthening the most likely points of attack, and to be able to protect the line of retreat.

Most of the cavalry, and some horse-artillery if it can be spared, would be placed with the reserves. Sometimes a portion of this force is placed in the second line for the purpose of joining in forward movements and flank attacks upon the assailants, or of covering the retreat of the troops engaged in these counter-attacks if unsuccessful.

#### SECOND STAGE OF THE DEFENCE.

The second stage generally commences with the opening of fire at long range from the main batteries of the position, upon the heads of the enemy's columns, which have already been similarly treated by the guns in the advanced preliminary position. The object of this fire is to force the enemy's infantry to quit its order of march and deploy. The attacking artillery will probably now reply from its first principal position, and as the artillery of the attack is at this time the most important arm it must be answered by the guns of the defence. In this artillery duel the defenders should have the advantage, as knowing accurately the ranges

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to the various points which must be occupied by the enemy in his advance, and as being moreover entrenched while the assailants are comparatively exposed.

During the second stage the infantry of the defence are brought up into position and open long range fire (from 1,000 to 700 yards) upon the advancing enemy with more or less effect.

### THIRD STAGE OF THE DEFENCE.

In the third stage the advance to effective rifle range of the attacking infantry has forced the defence to show more clearly the positions of its troops, and the enemy commences his dispositions for the real attack, the direction of which it is now the object of the defending commander to discover, by every means in his power. As the supports and reserves of the assailing infantry come clearly into view, they should receive the concentrated fire of part of the artillery of the defence.

### FOURTH STAGE OF THE DEFENCE.

In the fourth stage the real point menaced by the attack being made clearly apparent, the commander reinforces it to meet the assailants with a superior fire, and the artillery of the defence is directed at the opposing infantry, which now has become the principal arm in the attack. Should a counter-attack be projected it takes place during this stage, unless it is to be delayed until after the assault, as shown in a former page. Resistance to a flank movement of the attacking troops would also now have to be made. In the case of a counter-stroke being delivered by the defence, part of the cavalry and horse-artillery might be employed in support of it. Cavalry also should generally move forward on the flanks at this part of the action to seek for opportunities of throwing the flanks of the attacking infantry into disorder, or of taking guns too rashly advanced.

### FIFTH STAGE OF THE DEFENCE.

The fifth or last stage comprises the final repulse of

the attack upon the position, or the defenders' enforced retreat therefrom. In either case pursuit by the victors may ensue. Immediately before and during the final advance or assault every gun of the defence should concentrate its fire upon the attacking infantry, in order to check their advance, and should the assailants retire the guns must continue to fire upon them, until masked by the interposing troops sent forward in pursuit.

Should the defenders, on the other hand, be forced to fall back, guns must cover the movement and enable the infantry to disengage itself. In an open country the cavalry of the defence (the reserve of that arm being probably quite fresh) would, with the aid of horse-artillery, assist in checking the pursuit; in a close country the service would be undertaken by infantry and artillery; in a varied country the duty would be shared by all three arms.

#### THE ATTACK AND DEFENCE OF LOCALITIES.\*

In the foregoing notes the action of a small combined force in attack and defence of an ordinary position has been alone discussed. In minor operations, however, a small force is more often engaged in the attack and defence of special localities or posts. The primary principles of action already detailed and explained are also applicable in such cases, but some modification in their mode of execution is now and again required to meet the special conditions of local combat.

The attack and defence of points possessing tactical importance has been always more or less a feature of warfare; but the frequency of such action, more particularly on the field of battle, before or during the progress of an engage-

\* The space at disposal has necessitated brief notes only being given on the subject of attack and defence of localities. The author has, however, the less hesitation in curtailing its discussion in this manual, as the student may already find much information thereon in several existing English works. Home's 'Précis,' Schaw's 'Defence and Attack,' Clery's 'Minor Tactics,' and 'Instruction in Military Engineering,' Vol. I., Part I., 'Field Defences,' Ed. 1877, are specially recommended.



ment, has much increased in modern wars. This has probably arisen, from the fact of the theatre of action being more and more unfrequently selected in open and sparsely populated countries ; the rapid increase of cultivation and constant subdivision of property, on the continent of Europe especially, having tended to render battles on plains or open hills of somewhat rare occurrence. It has therefore been rather the rule than the exception, in modern campaigns, to find the tactical occupation of hamlets, farm-houses, woods, isolated hills, or even the smallest accident of ground, eagerly sought for and as eagerly opposed, until each point has become the scene of a miniature battle, in all its various phases.

Points such as these when presented on the battle-field itself are of immense use to the defender, forming advanced posts for preliminary resistance, or rallying posts for final stubborn defence, according to their position. The possession of such a point may often assure success to the side which can hold it, and where small forces only are engaged it would probably become the main objective in attack.

The action of a force detached from the main army whether in attack or defence is also commonly connected with the seizing or holding a similar post.

The special modes of approach or resistance must vary with the nature of the locality attacked or defended, but as a rule infantry combined with artillery would form the force employed in local combats of this nature. The best formation for infantry *attack* would probably be in small columns at considerable intervals, which could profit by the ground, and advance without extending close up to the point of attack. This point itself would be chiefly selected for the advantages thus presented of an easy approach masked by the ground. The leading supports should be close to the front, for though the moral effect of reinforcements coming up in succession is always very great, the demoralising influence of the first attack on a post being repulsed, through weakness of the leading troops, would be very much greater.

The artillery would, as in the attack of a position, first

prepare the way for the infantry at long range, and then if possible move up to telling distance to co-operate in the final assault.

In arranging the defences strong points, which the enemy cannot pass without taking, must be looked for. These should be occupied by the defenders, and the enemy forced to local attack thereon, by strong reserves so posted as to prevent a turning movement.

The defenders should pay earnest attention to the general principle of commanding all approaches by a possible concentration of fire, whether that of artillery, or of infantry, or of both. Should the defence to be made be a determined one, an inner line or citadel should be fixed upon or formed for final resistance.

Guns as a rule must not be shut up in any enclosure from which they cannot be easily withdrawn. They should rather be on the flanks with local temporary protection, and cross their fire in front of the post. Occasionally, however, an isolated post has to be held to the last, in which case, the guns might be placed inside the enceinte and stand or fall with the place.

Under ordinary conditions, as in larger operations, the defenders should seize upon any opportunity for making a counter-attack, and for assuming the offensive at a favourable moment.

In this sort of combat cavalry is rarely employed, and then only in small bodies, for the ground is generally unfavourable to its action. Should it be joined to the force, however, the reconnoitring may be carried out by it, and the preliminary encounter of advanced troops may include this arm on either or both sides. During the action cavalry must endeavour to protect the flanks, and to threaten the enemy's flanks, and also to take any advantage of disorder on the part of the enemy's infantry when in the open. At the close of the action cavalry can either pursue or assist in covering retreat.

# EXERCISE XIII.

## THE THREE ARMS COMBINED.

### ENGAGEMENT OF TWO SMALL FORCES.

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#### IDEA.\*

Two opposing forces, one (Red) from Retford, and one (Blue) from Compton, are sent to occupy Minton.

Red's force consists of :

	men
One and a half battalions of infantry	. 1,200
One troop of cavalry . . .	. 48
Six guns—9 pounders.	

The force is descending into Minton from the high ground east of the river, the advanced-guard having passed through the town as far as Heath Hill.

Blue's force consists of :

	men
One and a half battalions of infantry	. 1,200
One squadron of cavalry . . .	. 96
Six guns—9 pounders.	

The force is in motion on the Compton-Pawley Road, its advanced-guard being about a quarter of a mile west of Pawley House.

FIRST STAGE: 8 A.M. to 8.25 A.M.

*Red.*—The cavalry scouts of the advanced-guard are at Drayton Hill, with flanking groups on Wiley and Yatton Hills.

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.

The scouts report, 'Blue cavalry reconnoitring along the line Churton-Pawley-Totley Bridge.' This information being transmitted to the rear, instructions are sent up to the advanced-guard commander to choose and occupy at once the position most suitable for the main body to take up on arrival, in order that it may cover the town of Minton. Heath Hill having been selected, the choice of ground is approved of by the commander of the force on his coming up with the main body. This takes place at 8.15 A.M., when the following dispositions are ordered to be made.

One company (that on advanced-guard duty) to move to the copse, close to where a bridge crosses the Mill Brook; a second company to occupy South End Farm and copse; and a third company to be placed in Kite Wood; thus forming three advanced posts.

The main fighting line of defence to extend from the wood on the south-western slope of Heath Hill, along the western crest, to the small clump of trees near South End Farm.

The battery of artillery to occupy a central, or nearly central, position in this line, having a company of infantry on each flank.

Two other companies to be posted in support of the fighting line, one in rear of each flank. That on the left, to be placed between the two woods on the south slope of the hill; that on the right, behind the fence which runs from the south corner of Kite Wood towards Minton Wood.

The artillery commander, seeing that he may require to bring his guns to bear not only upon the immediate front of the position, but also upon the high ground to its right front, a probable point of attack, decides upon bringing his battery into action in echelon of sub-divisions, the left in advance and the right retired. The guns, by a simple movement of the trails, can thus be traversed round, and brought to bear when necessary on Yatton Hill.

On account of the nature of the ground on the left flank of the position, an attack in that direction is not anticipated.

The remaining five companies of infantry are to be placed in reserve in Minton Wood.

Shelter-trenches of slight profile are now traced out for the two companies of the fighting line, and their construction is at once begun; the men not employed in working at them are made to lie down under cover in convenient positions in rear of their posts, until required to act.

The regimental small-arm ammunition carts are placed close to the reserve at the edge of Minton Wood.

A few small patrols of cavalry are left on the ground about Wiley Hill to report any advance of the enemy on that flank, but the remainder of the troop is sent to Yatton Hill with orders to reconnoitre as far as Winsley Bridge, to look out sharply for the enemy in that quarter, and to resist if possible any attempt on his part at reconnaissance from Yatton Hill.

The orders for these preliminary arrangements are briefly issued by the commander of the force, who notifies that his own position will be upon Heath Hill itself during the coming engagement.

The working parties commence the shelter-trenches at 8.16 A.M., but have only been two or three minutes at work when artillery fire is opened upon them from the direction of Pawley House. The Red battery is immediately brought up to its assigned position to answer the fire of the enemy's guns.

The troop sent to Yatton Hill advances towards Stanton Bridge by the road passing South End Farm, and on nearing the opening on to Yatton Hill, not far from the bridge, information is received from the scouts that Blue cavalry is approaching. The troop wheels to the left off the road and pushes up the hill, forming into line as it gets on the open ground, but before the Red cavalry has time to get well into a gallop, it is charged by Blue cavalry coming down the slope in echelon of half-troops. The first shock breaks Red's ranks, and the second scatters the troop, which has to retire as it best may by the Stanton Bridge-Minton Road.

*Blue.*—On nearing Pawley the scouts of the advanced-guard send back information that 'the enemy's scouts are on Drayton Hill, and a column of the three arms is approaching Minton from the east.'

The cavalry of the advanced-guard pushes forward and, fresh reports being sent to the rear, the commander of the force is informed, first, that an advanced-guard is at Heath Hill, and shortly afterwards, that the main body of Red's force has also arrived and is taking up position on the hill, as if to cover Minton.

The battery is now ordered up to the front.

At 8.12 the troop of cavalry belonging to Blue's advanced-guard arrives on Drayton Hill, and its scouts are in contact with

those of Red, both there and on Yatton Hill. The cavalry and infantry of Red's advanced-guard are seen on Heath Hill.

At 8.16 the battery arrives and is taken into the grounds of Pawley Park, where a preliminary artillery position, selected by one of the officers of the battery who has galloped on to the front for the purpose, is taken up. From the point where the guns are brought into action, Heath Hill is fairly visible over and between the trees at a range of about 2,000 yards, and with the aid of the glass working parties are seen entrenching on the western crest.

Fire is opened against Heath Hill at 8.19 A.M. and at the same time a look-out station is established on the roof of Pawley House.

The commander of the force now arrives at Pawley House, and having received a report of the enemy's strength and position, makes arrangements for the attack. He has already sent on the second troop of cavalry to Yatton Hill, with positive instructions to prevent reconnaissance by Red on that flank; assistance, if required, to be asked for. At the same time every possible information regarding Red's dispositions for defence is to be obtained and transmitted to the commander from this advanced position.

The company of infantry of the advanced-guard is ordered on arrival to take post in Drayton Wood, supported by the troop of cavalry already on Drayton Hill. When the attack commences, all the cavalry scouts who are out to the front and right flank, except a few on the south side of the Mill Brook, are to rejoin the troop. Three companies of infantry are also to follow in support to Drayton Hill. The whole of these four companies and the troop of cavalry to be under the command of a field officer.

With this force the commander proposes to hold and distract the enemy by a weak frontal attack; while the main portion of Blue pushes round along the river bank to assail the right flank of Red's position. Thus the flank attack will really be the main attack.

The orders for these movements are given without delay. The command of the frontal attack (four companies and one troop) is entrusted to Major A., while that of the flank attack (four companies) is given to Major B. The reserve of four companies under Major C. is to support the flank attack. The commander of the force notifies that during the attack his own position will be on Yatton Hill.

Blue guns the fire of Red is soon diverted from the head of the infantry column.

The companies having arrived at Drayton Hill are drawn up for a few minutes' halt between Pawley and Drayton Wood before engaging in the frontal attack on Red's position. The advance is then commenced by one company moving cautiously along the road to Drayton Farm under cover of the fences and extending across Drayton Bottom, the other two companies following as support and reserve.

As soon as the fighting line of this force enters Drayton Bottom it comes under the effective fire of the Red company at South End Copse. Its progress is therefore made by rushes from one line of fence to the next. At the second fence the fighting line opens fire at long range on the main position, the orders of this force being to engage, as soon as possible, the attention of the front line of defenders.

Full account of the dispositions of the defenders has now been forwarded by the Blue cavalry on the left flank to the commander, who has taken up his post on Yatton Hill near the road between Upper Wood and Yatton Wood.

The captain of the troop reports that, notwithstanding the repeated efforts of Red cavalry, he has so far succeeded in preventing any reconnaissance on the part of the enemy's scouts, and in keeping the main party of cavalry off Yatton Hill.

At 8.40 the flank march of Major B.'s four companies has reached Yatton Wood, the leading company being between the north wood and the river. The route thus lying along the reverse slope of Yatton Hill and across downs where there is no dust to be raised, has so far escaped the direct notice of the defenders, whose attention, moreover, is engaged, as we have seen, with the frontal attack.

#### THIRD STAGE: 8.40 A.M. to 8.50 A.M.

*Red.*—The commander is not at all satisfied at the absence of intelligence from his right flank, and sends repeated orders to the officer in command of the troop to break through the cordon that Blue has established.

At 8.40 the company of infantry, advancing from Kite Wood, has passed through the plantation, and in combination with the Red troop, drives back the Blue cavalry. The Red troop now, following up across Yatton Hill, discovers the presence of the advancing companies of Blue's flank attack just behind Yatton

## THE RESULTS OF BOLDNESS TACTICS.

The Red company in the space near the Mill Brook is prevented by the continuation of the ground from seeing or firing upon the Blue company in Drayton Wood, but on hearing the shots fired from the wood and replied to by their own scouts in front, a few men of the Red company in extended order are advanced up the slope of the hill, and succeed in drawing Blue's attention away from the guns for a short time. Their advanced position, however, is soon rendered untenable, owing to the severe fire which the company in the wood brings to bear upon the men.

The company of the defense on Heath Hill now establishes itself in advance of its shelter-works, so as not to interfere with its construction, and replies with vigor to the fire from Drayton Wood.

At 4.30 an advance of Blue Infantry is perceived between the north part of Drayton Wood and Drayton Farm, a frontal attack from Drayton Bottom being apparently designed. The movement, as soon as developed, is met by the fire of the advanced company in South End Copse, but not by fire from the main position until the Blue Infantry extended across Drayton Bottom have arrived within 500 yards of Heath Hill. At this time 5.00, the shelter-works are completed and the infantry of the main position enter them and bring their fire to bear upon the attacking force at a range of about 750 yards.

The commander now receives intelligence from the cavalry on his right flank, that all efforts to reconnoitre on Yatton Hill have been frustrated by the Blue cavalry. An order is instantly despatched to the company at Kite Wood to move to the plantation beyond the road to assist the cavalry in forcing their way on to the high ground. A company from the reserve is sent to take the place of that leaving Kite Wood.

**Blue.**—The company of the advanced-guard enters Drayton Wood, and taking post at its farther edge opens fire, as we have shown, upon Heath Hill.

At 5.30 the head of Major A.'s three remaining companies arrives near Pawley Wood, and the dust of the column apparently attracting the attention of Red's artillery, some shells are directed upon and take effect in the leading company.

Blue's battery of artillery now shifts its position to a carefully selected one at between 1,400 and 1,500 yards from Heath Hill to the left of the Pawley Road, which is in effect the new position of the attack. By this move of the



## ATTACK AND DEFENCE OF THE THREE ARMS. 291

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The captain of the troop reports that, notwithstanding the repeated efforts of Red cavalry, he has so far succeeded in preventing any reconnaissance on the part of the enemy's scouts, and in keeping the main party of cavalry off Yatton Hill.

At 8.40 the flank march of Major R.'s four companies has reached Yatton Wood, the leading company being between the north wood and the river. The route thus lying along the reverse slope of Yatton Hill and across downs where there is no dust to be raised, has so far escaped the direct notice of the defenders, whose attention, moreover, is engaged, as we have seen, with the frontal attack.

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## THE ELEMENTS OF MODERN TACTICS.

Intelligence is instantly sent to the commander on the hill, who receives the news at 8.48.

During the last few minutes, however, Blue's frontal attack has been so skillfully managed as to fully persuade Red that it is a real attack, and in order to meet it the Red commander has merged in the fighting line the two companies that were in support. He now orders two more companies of the reserve to Kite Wood. One of these enters the wood in support of the company extended at its farther border, the other takes position behind a bank on the left of the wood facing north-west.

The two last remaining companies are placed in support on the higher ground between Drayton Hill, and lining the first fences of the cultivated plateau on the north side of the plateau of Heath Hill. The company which has pushed on in support of the cavalry falls back and takes a stand at the plantation, while the cavalry retreats on to the Minton Road.

At 8.50 Blue has driven the Red company out of the plantation, and threatens the right flank of the defenders' main position.

In the front of the position the leading Blue company has reached the line of fence touching the west corner of South End Copse, and by bringing up its support has taken the copse after a severe struggle. The Red company falls back on the clump of trees on the east side of the road.

At the moment that Blue commences his attack on South End Copse, the Red company in the copse on the Mill Brook sees an opportunity of taking the attacking force in flank. It advances accordingly from the copse across the foot of Drayton Hill. But the movement is not unobserved by the troop of Blue cavalry, which is watching the progress of the fight from its concealment on the south side of Drayton Wood. It advances at a gallop round the edge of the wood, and falls upon the Red company on the slope of the hill. This charge is followed up by an advance of the Blue company from Drayton Wood. The Red company is forced to retire with great loss, on to the extreme left of the main position. Meanwhile the Blue company joins the frontal attack and prolongs its line to the right, taking post behind the second fence from the road which runs along the foot of Heath Hill.

*Blue.*—The companies of the frontal attack, in their advance as described, have suffered considerable loss, but nevertheless

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fulfil their mission, in engaging and holding the attention of the defenders. They do not, however, succeed in advancing beyond South End Copse on their left, and the second line of fence from the road which runs across Drayton Bottom, on their centre and right.

The flank or real attack has so far progressed that by 8.50 Major B.'s force has gained the crest of the hill overlooking Kite Wood and South End Farms, two companies being extended in the front line and two in support. The reserve under Major C. is close behind the plantation in column of companies. The troop of Blue cavalry is to the left rear near Stanton Bridge.

### FOURTH STAGE: 8.50 to 9 A.M.

*Red.*—The attack on the right flank has now so developed itself, that there can no longer be any doubt of its being Blue's real attack. Red therefore directs his artillery to bring their fire to bear upon it, and the foresight of the artillery officer in placing his guns in echelon at the commencement, enables him to point them speedily in the new direction without change of position. Fire at 700 yards range is accordingly soon opened upon the troops in and near the plantation. This new objective of the artillery, however, has an attendant disadvantage, as the fire has to be directed over the heads of the Red infantry, lining the north-west crest and fences of Heath Hill not more than 200 yards in advance of the guns. The infantry are on a lower contour, no doubt, and the trajectory must also be considered, so that the danger is more apparent than real; but still the passage of projectiles over the men's heads, fired from a point almost immediately in their rear, has a more or less demoralising effect upon the defenders of the right flank.

The six companies forming the original line of defence are ordered to resist the frontal attack of Blue by every means in their power, lest some favourable opportunity for converting it into a real attack should be seized upon by the assailants.

The other six companies, in and around Kite Wood, offer a fairly successful resistance, being much assisted by the cover afforded by the trees and fences. After some minutes, however, they suddenly find that Blue's battery has come into action in a new position on Drayton Hill, whence its fire enfilades the position held by Red's right wing, and even in places takes it in reverse.

*Blue*.—At the commencement of this stage the artillery fire of Blue, from the field near Pawley, is concentrated on the right flank of Red's position as the principal point of attack. A few minutes later, however, the commander, from his post near Upper Wood, sends to request the artillery commander to co-operate with the attack from Yatton Hill, by taking up an artillery position at closer range to enfilade the right flank of the defenders now thrown back.

The guns limber up, move off, and in a few minutes come again into action, on the slope of Drayton Hill, just in front of the gap between the two woods. In their passage to this point they have been completely screened from the enemy's view, having first passed through the village and then up behind the northern portion of the wood.

The battery opens fire at 8.58 against the right wing of Red's force, which, bent back in order to meet the flank attack, is thus taken in enfilade, and suffers considerably, both physically and morally.

Major B. now pushes his attack vigorously, and by the end of this stage has arrived at Kite Wood; Major C. with the reserve closing up in support, and placing marksmen behind the fences to his right with the special view of picking off the gunners.

#### FIFTH STAGE: 9 to 9.5 A.M.

*Red*.—The right wing, enfiladed by artillery fire on its left, and pressed by a superior force, eight companies against six, in front, is forced to fall back on Minton Wood. The gunners are also suffering severely, from the fire of Blue infantry lining the fences in Drayton Bottom and on Yatton Hill above South End Farm.

The commander now determines to effect his retreat as he best may. Occupying the woods with infantry, his guns are ordered to cross the river as quickly as possible, passing round the south end of Minton Wood for that purpose. The troop of cavalry is to cover their passage over the bridge and then to follow them.

The guns limber up and retreat, and, taking up position on the farther bank, open fire on Blue to cover the withdrawal of the Red infantry.

*Blue*.—As Red gives way first on the right and then on the

left, Blue's two attacks are pushed home. Red's troop of cavalry, falling back through Minton, is followed up by Blue's troop, which endeavours to drive it on to the bridge, in order to cut off the line of retreat for Red's guns. The Red troop, however, fighting desperately, holds the entrance to the town sufficiently long to enable the guns to get across. By that time part of the Red infantry, retiring through the town, forces the Blue cavalry to draw off.

Blue infantry presses in pursuit up to Minton and captures many prisoners, but a remnant of Red's force succeeds in crossing the river, and joins the artillery and cavalry on the east bank.

#### OBSERVATIONS.

Red from the first took up too extended a position, and frittered away his strength. Half-companies would have been better than whole ones at the three advanced posts, and the commander would then have had a stronger force in hand for disposal when Blue developed his real attack.

Red, moreover, allowed himself to be deceived by Blue's weak frontal attack, and committed half his whole force to oppose it at too early a period, which resulted in his having only six companies in hand to meet the attack of eight companies, at the critical moment of the flank or real attack.

On the other hand, Red showed judgment in holding back his infantry from the trenches until their fire should be really effective, and also in the manner of posting his guns; but for this credit is rather due to the artillery officer who foresaw the probability of attack from the right, than to the commander, who, judging by the disposition of the rest of the force, does not appear to have altogether shared in that view.

The troop of Red cavalry should have been pushed forward earlier to establish itself on Yatton Hill, and when, on arriving late, it was taken unawares and driven in by Blue, the commander should have sent for, and obtained, help sooner than he did, rather than allow the main force to be deprived of proper intelligence from the most important flank.

Blue's flank march under cover was good, but it had the fault of slowness inevitable in such cases, and Red ought not only to have foreseen it, but to have been prepared to meet it with the larger portion of his force.

The final position of Blue's guns shows clearly that although

## THE ELEMENTS OF MODERN TACTICS.

In the last stages of an action infantry plays the most important part, yet the skilful handling of artillery may often help to turn the scale, and to secure a victory.

Looking at the relative positions of both forces at the outset, the nature of the ground, and the times of arrival thereon by the two opponents, an impartial judge could hardly fail to decide that, if properly handled, the Red troops ought to have been able to hold Heath Hill, and to have defeated Blue's attempt to occupy Minton.



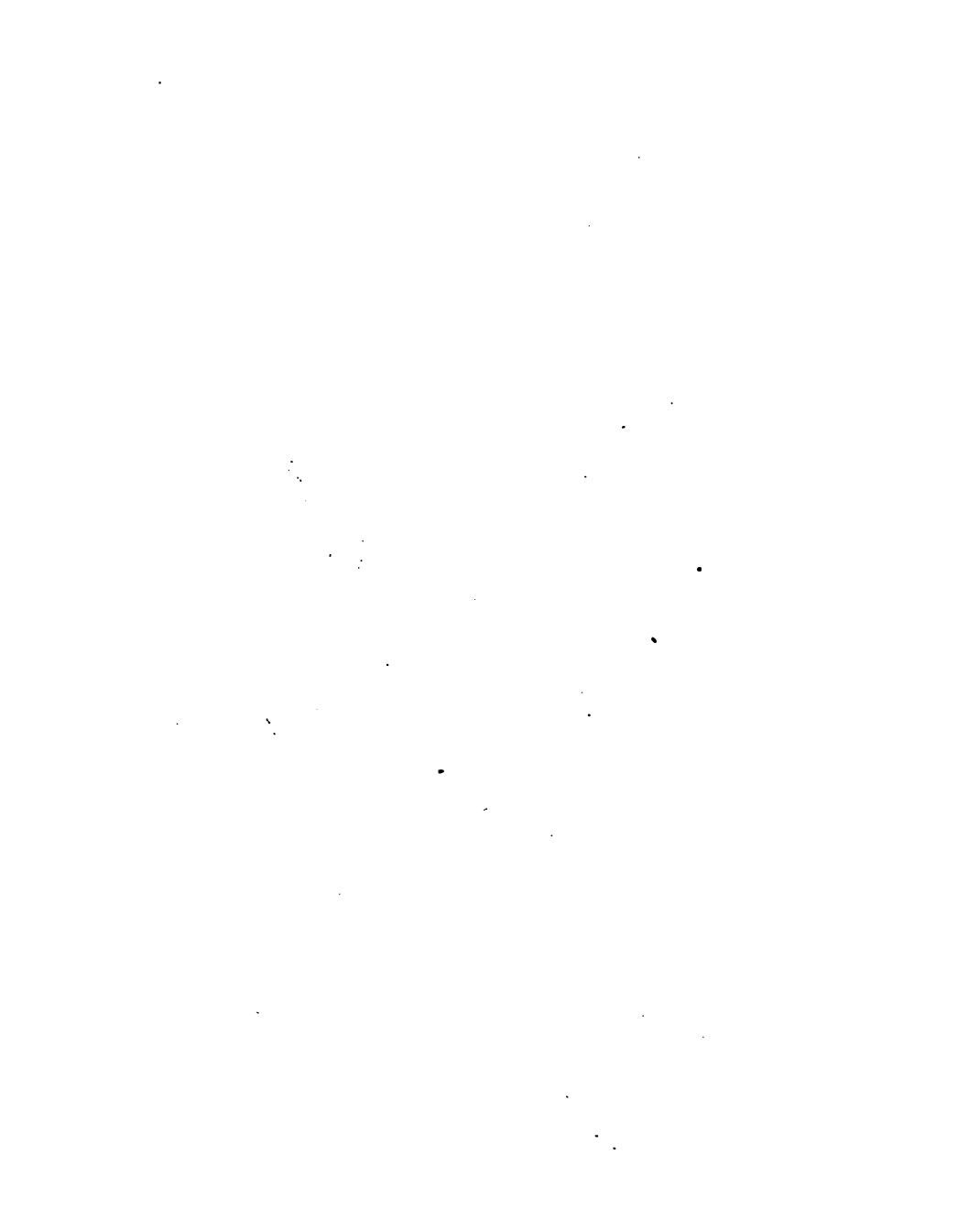
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## CHAPTER XI.

## REAR-GUARDS.

IN briefly alluding to the functions of a rear-guard in a former chapter, we stated that while in a forward march its duties are simply those of police, with sufficient strength perhaps to ward off desultory attacks on the baggage, in a retreat it becomes the most important section of the covering detachments of the army.

## THE REAR-GUARD IN A FORWARD MARCH.

As regards the rear-guard in its first aspect, Sir Garnet Wolseley, in his 'Soldier's Pocket-book,' truly remarks that no more disagreeable duty, involving sheer hard work without excitement or glory, can fall to the lot of officers and men. To wait about, sometimes for hours, after the head of the column has started, until the last of the impedimenta in rear has moved off, then to march all day in the dusty wake of the other troops, and to get into camp long after every one else has made himself more or less comfortable, are trials, petty though they be, which, even in peace manœuvres, make this duty unpopular.

On service when approaching the enemy the case is much worse; for the rear-guard is now, in addition to other discomforts, debarred from the chances of distinction and the excitement of action, enjoyed by its fortunate colleague the advanced-guard.

Like all other duties, however, it must, when it comes,

be met in a soldier-like spirit, and an officer, especially, is bound to make the best of it, as an example to his men.

#### THE REAR-GUARD IN RETREAT.

The circumstances are altered, however, when the rear-guard acts between its own troops and the enemy. A change of base or position may have caused an army temporarily to make a retrograde movement, or the force may be retreating. In either case the mission of the rear-guard is to retard the pursuit of the enemy, and to interpose between him and the main body on the march. In carrying out this duty the rear-guard must often maintain a struggle at a disadvantage, and even, if necessary, sacrifice itself in order to enable the main force to get away in safety. No more honourable post can be assigned to an officer than that of commanding or serving with a rear-guard in such a case. The very best officers and the freshest troops should be selected for this service, especially if covering the retreat of a beaten army.

In the latter case the position of the rear-guard is one of much difficulty, the enemy nearly always pursuing with activity, and also endeavouring by flank attacks to cut off the retreat. In considering the duties of a rear-guard, however, it must be understood that we do not mean to discuss the conditions under which the retreat of a beaten force from the field of battle should be covered, this being part of the final stage of an engagement, as shown in the last chapter. At such time the rear-guard proper has not yet been formed, nor, as is clearly pointed out by a German writer,\* can it ever be organised, or its duties really commence, until after the first pause which separates the combatants, at the conclusion of the action. From this point only we shall consider the rear-guard as a formed body.

As regards the strength of the rear-guard, we have seen that, in a retreat, it would take the same proportion of the covering detachments, which provide for the safety of the

\* Rustow.

army, as would be allotted to the advanced-guard in a forward march. This proportion would commonly be about one-sixth of the whole marching strength. In exceptional cases it might even amount to one-fourth of the whole.

It is not without reluctance on the part of a commander that so large a rear-guard is detailed, as his first anxiety and care must naturally be to withdraw and place in safety the greatest possible number of his men. But if he neglects to cover his retreat by a sufficiently strong force the result will probably be that the rear-guard, unable to withstand the assaults of the enemy, will constantly be driven back upon the main column, and throw it into disorder. The demoralising effect upon troops of the mere knowledge that they are in retreat is in itself very great. Should the rear-guard not be strong enough to enable the column to retire with due regularity, the feeling of depression will increase, the retreat will turn to a rout, and disaster will result.

A skilful rear-guard commander will endeavour by every means to obtain even small advantages over the enemy, in order to encourage his men and to maintain their morale, thus enabling them to endure with better spirit a harassing pursuit. With this view it appears desirable that the extreme rear and flanking detachments of the rear-guard should be sufficiently strong, to take all possible advantage of any imprudence on the part of the enemy's advanced troops.

In the event of a retreat after an engagement something may also be done towards this end, by selecting for the rear-guard such troops as have not only suffered least during the day, but have themselves perhaps obtained some local advantage, which, insufficient to affect the general result, may yet be enough to prevent the men feeling downhearted, and with little further stomach for action.

The rear-guard should follow and keep up constant connection with the main body upon the central route.

It is difficult to prescribe any definite distance for the rear-guard to take up from the main body. The latter, as is natural in retreat, or in a strategic march to elude the enemy, proceeds as fast as is convenient in the desired direction.

## ELEMENTS OF MODERN TACTICS.

rear-guard has to interpose between the main body and the enemy, to check the advance of the pursuer, and to observe and reconnoitre him, in order to discover at the earliest moment any intention, on his part, of a flank or turning movement. Hence it happens that the distance of the rear-guard from the main column, in two or more cases, may vary considerably, in accordance with circumstances; under ordinary conditions the distances laid down for the advanced-guard in a forward march would be approximately suitable for the rear-guard in retreat.

A rear-guard does not reconnoitre in advance of its march, for the enemy is always there, and since the main column goes first over the ground, and investigates it thoroughly, reports and shows the positions of roads, bridges, and positions suitable for making a stand against the enemy, can be sent back to the rear-guard whenever it is likely to need them.

In most cases the enemy, if following, is easily reconnoitred in the rear, as in the eagerness of pursuit he has little heed for concealment.

On the flanks alone there is difficult and delicate work, of this particular nature, to be done. The most serious danger for a rear-guard is undoubtedly that of being turned or cut off, and not only is its own safety imperilled in such event, but its protective character as a guard to the rear of its own main column ceases to have effect. To be attacked upon its flanks is almost as dangerous as to be cut off, and against both of these contingencies the best precautionary measure is accurate and extensive reconnaissance to the flanks. The parties sent out upon this duty should in all possible cases be composed of cavalry.

As regards its order of march, a rear-guard is aptly described in our Regulations as an advanced-guard reversed. The principles of formation are identical in both the one and the other, and the same rules generally guide both; with this difference, that the rear-guard retires before the enemy, while the advanced-guard pushes against him. Consequently, although the distribution is the same as with the advanced-

guard, the strength of the fractions of the rear-guard decreases instead of increases from front to rear.

The reserve is nearest the main body. The support is farther to the rear, in support of the rear party, which moves in several groups or in consolidated formations according to the country it passes over.

The extreme rear is brought up by the rear-group or point. The Germans call this group the *Spitze* whether belonging to the advanced-guard or to the rear-guard. Connecting files are made use of between the several bodies as in the advanced-guard.

The order of march of a small rear-guard of infantry and that of a similar force of cavalry are shown in Plate XXII., Figs. 1, 2.

The duties and positions of the officers are relatively much the same as with the advanced-guard ; but the most careful instructions should be given as to the degree of resistance to be offered to the enemy, and the extent to which reconnoitring on the flanks is to be carried in the retreat.

In a fairly open country, where the pursuit is not immediate, the extreme rear will be formed of reconnoiters, moving in a line thrown back at each end towards the flankers, until it assumes the semicircular form in a manner more marked than it would in the advance. In a close country, every road, path, or possible point of passage in rear, intersecting a similar imaginary curve, must be committed to the charge of groups, whose scouts well in rear will give the earliest news of the approach of a pursuing force. This is shown in Plate XXII., Figs. 3, 4.

If the pursuit is active and attack imminent the rear-guard must manœuvre ; and here we may remark that the nature of the country affects not only the composition of the rear-guard, but the kind of action it must take with the troops at its command.

As regards its composition, in an open country cavalry is certainly necessary, not only for reconnoitring on the flanks, but also to meet the enemy's cavalry. But infantry

is indispensable in more or less strength under all circumstances, in order to make a stand at suitable positions for defence, to form rallying points and protection for the cavalry if driven in, and to check the eager pursuit of the enemy's horse.

If the force is of any magnitude, its rear-guard should be composed of the three arms, in proportions suited to the ground that is to be passed over. Cavalry, to meet and ward off the enemy's light horse which in open ground can hover round the rear and flanks, artillery, to take up favourable positions in retreat to bear on the heads of pursuing columns, and infantry, to bear the brunt of the enemy's attack and retard his advance at the chosen points of resistance. If guns are used with skill in a retreat they can often save the deployment of their own infantry, by obliging the enemy, as he presses on in pursuit, to halt and deploy; the guns retreating rapidly as the enemy forms up. Artillery is thus of especial value when added to a rear-guard.

As regards the action of the rear-guard generally, since the great object which it has to effect is to keep back the enemy without compromising the safety or delaying the retreat of the main body, it is evident that its duties can be best performed, by frequently occupying such natural positions as the country may afford, forcing the enemy not only to deploy but even to attack, and then getting safely away without serious fighting.

By continually offering to fight, and yet not fighting, but retiring, as soon as the challenge is accepted, the rear-guard delays the enemy without much loss, and also perhaps prepares the way for a successful offensive return, should the defective dispositions of the enemy, or his careless manner of pursuit, afford an opportunity.

But any attempt at the offensive must be made with care and judgment, for a rear-guard commander should never forget that he cannot stop long to fight, every moment that elapses bringing the foe assistance, while it separates the rear-guard from its friends. Even the temptation to pursue, in case of a temporary advantage, must be resisted, for such



**Rear Guards.**  
*and distances in yards.*

Note to Fig<sup>s</sup>  
1. 2.

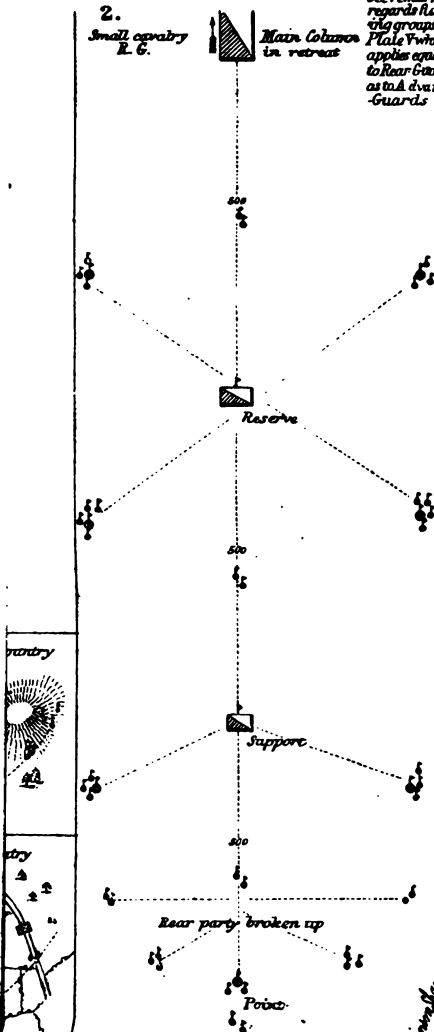
See remark as  
regards flank  
the groups on  
Plate V which  
applies equally  
to Rear Guards  
as to Advanced  
Guards

2.

Small company  
R. G.



Main Column  
in retreat



Williams  
1871



would result in too great an interval being left between the rear-guard and the main column ; the latter always continuing its march in retreat.

Although offensive action, then, may sometimes be desirable and even indispensable, for the purpose of covering the retreat if hardly pressed, it must on the whole be said that the rear-guard should, as a general rule, endeavour to avoid it.

If seriously committed to engagement, the troops of the rear-guard should only withdraw by alternate echelons.

In carrying out its duties, of delaying the enemy's advance by every possible expedient which may hinder and annoy him, it becomes necessary on occasion to break up the roads, and to blow up or destroy bridges, or render them temporarily impassable. Von Mirus suggests that it is a good plan to loosen the planks of a wooden bridge, so that the troops that cross last can easily remove them even in face of the enemy. Gates and narrow roads can be barricaded with carts, loaded with earth, stones, or manure, one wheel being removed from each cart on placing them in position. Fords are rendered difficult to pass by placing farm implements, such as harrows, ploughs, &c., in the line of crossing. The longer the enemy can be kept under fire by means of such obstacles the better.

These are, however, but secondary expedients, and most reliance must be placed upon the advantage which the rear-guard derives from the natural features of the country traversed, in regard to their capability for defensive purposes.

If of equal strength with its pursuers, the rear-guard possesses a superiority over them in taking up a position of even small natural strength. If of less numbers it can still hold its own for a time.

Such positions as are formed by rivers, heights, and gullies are found in most countries, but smaller features or accidents of ground may enable a portion of a rear-guard to bring a much larger force for a time completely to a standstill.

An advancing column may even be temporarily checked

## ELEMENTS OF MODERN TACTICS.

infantry or dismounted cavalry, occupying a group of buildings on the main route.

In these details of conflict the knowledge which it has of the ground is much to the advantage of the rear-guard, as it can decide what points to make a stand at, what to pass over as untenable. In this respect its position seems better than that of the advanced-guard in the forward march, but the apparent superiority is fleeting, for the conditions under which the rear-guard and advanced-guard fight are widely different. The advanced-guard can push on with the confidence fairly engendered by knowing its supports to be approaching from the rear in any required force; the rear-guard, on the other hand, cannot but feel that the longer the conflict is protracted the farther it gets from its main body.

The rear-guard, therefore, has to consider a danger which does not exist for the advanced-guard, that of being cut off from its column should it remain too long in position and be successfully outflanked. If the rear-guard, however, can hold its ground long enough to cause the enemy first to reconnoitre, and then to form up for attack, its purpose and object as a delaying force will have been effected for the moment, and the commander, on his flanks being threatened, may well retire, again to occupy a farther selected position, and again to retard the progress of his pursuers.

In close country every check thus given to the enemy, obliges him to incur a considerable delay; but the commander of the rear-guard must not forget, that he may be pursued by a column marching on a road to his flank, in addition to that immediately behind him. This is perhaps the greatest of all dangers against which he has to guard.

Should the position to be taken up by the rear-guard be an important one, its reserve will halt after passing the ground, and remain in such proximity thereto as may enable it, if necessary, to support the remainder of the force so long as required. But the enemy knowing the result to himself of a position so advantageous being taken up by the rear-guard, will probably endeavour by every means in

his power to push on by the flanks, and forestal his opponent in possession of the ground. The enemy can lose little by the attempt, and if at all successful the least evil that can result to the rear-guard will be that it must continue its retreat in all haste, and lose the chance presented of retarding the pursuit at this point, for fear of the greater evil of being cut off from its main body.

It has been suggested as a protection against such attempts, that the organisation of the rear-guard might differ from that of the advanced-guard in an important particular. An intermediate body marching about half way between the reserve and the main column, if of sufficient strength, could push on to hold any ground of tactical importance until the reserve comes up. The existence of the ground in question would probably have been reported to the rear-guard commander from the front, and if his scouts on the flanks are doing their duty, he will also have timely notice of the enemy's intentions regarding it. Time may still, however, be wanting to get the reserve to the position sufficiently soon to secure it, whereas if the intermediate party pushes on it may be more quickly seized, and held till the reserve arrives.

In cases where the nature of the country and the composition of the enemy's force enable him to execute turning movements with ease—as for instance if in fairly open ground he has plenty of light cavalry and appears to know how to use it—the main retreating column might leave troops behind it, to hold the tactical point until the intermediate detachment arrives. The latter, to carry out its purpose completely, which should comprise, not only seizing the ground, but holding it in such a manner as to impose upon the enemy, ought, in a mixed force, to be provided with guns. The presence of artillery will have a special effect in deceiving the enemy, as to the strength of the troops which already hold the position.

If the pursuit of a rear-guard, which has been actively carried on by the enemy up to a certain point, suddenly appears to cease, the commander should send out strong

## ELEMENTS OF MODERN TACTICS.

to ascertain the cause. The enemy, it will be seen, has either stopped in his pursuit on the main route, or has taken a different direction and is still advancing. In the latter case active reconnaissance by cavalry patrols should immediately be undertaken by the rear-guard, the main column being also advised of the route taken by the enemy, that it may send out flanking detachments to feel them.

Retreating through a defile, the heights on each side must be held by troops from the main body, until relieved by the infantry. The entrance to the defile must then be closed by the enemy, forced to deploy, begins the attack on either side. The moment for retreat is when the guns fire their last round of shrapnel, and disappear through the defile at a rapid pace, followed by the cavalry, and lastly by the infantry, the whole being covered by the fire of the flanking parties on the heights, which are the last to fall back.

A still warmer reception for the enemy, on his debouching from the other end of the defile, is next prepared by the rear-guard. Guns are so placed, as to enfilade completely the defile or that portion of it near the farther entrance, and the cavalry is held in readiness, if the ground admits, to charge the enemy's flanks as he comes out of the defile, before he has time to form up. The infantry, in part, dispute possession of the heights commanding the near end of the defile, while the remainder bring a heavy fire to bear on the heads of the enemy's columns as they come into view.

Retarding action to a great extent can thus be exercised by a rear-guard upon the pursuing enemy, both at the near entrance and at the far side of a defile, the latter of the two being generally the stronger position.

An army retiring by more than one road, whose directions are generally parallel, would usually have a rear-guard upon each road under a separate commander, the rearmost groups being continued across the whole rear, and flankers only upon the outer flanks of the outer columns. The whole of these rear-guards would be included in one high command.

The army would thus retire in as many columns as might be necessary, connection being kept up between the different main columns, and also between those of the rear-guards, at every cross road, and wherever the country may allow of communication.

No war material that could be useful to the enemy should be allowed in a retreat to fall into his hands. The rear-guard must destroy it if it cannot be removed. If hardly pressed, everything that could assist the enemy, such as standing corn and provisions, must be burnt, horses and wagons pressed and sent on to the main body. As an extreme measure, villages on the line of route must even be fired, if necessary to retard the pursuit.

## EXERCISE XIV.

THE THREE ARMS COMBINED. REAR-GUARD HOLDING  
ADVANCED-GUARD.

## IDEA.\*

A force (Red) covered by a rear-guard is retreating from Upper Bascombe, *viâ* Glenfield and Winsley Bridge, on Carsham; it is followed by a force (Blue), whose advanced-guard overtakes the rear-guard on the descent of Redburn Hill.

The rear-guard is ordered to delay the pursuing advanced-guard as long as possible, in order to enable Red's main column to take up a position on Churton Hill.

Strength of each side:

<i>Red.</i> —Rear-guard.		<i>Blue.</i> —Advanced-guard.	
	men		men
Infantry, 1 battalion	. 960	Infantry, 2 battalions	. 1920
Cavalry, 1 squadron .	. 96	Cavalry, 4 squadrons	. 384
Engineers . . .	. 20	Engineers . . .	. 30
Two guns, 16 pounders		Six guns, 9 pounders.	

FIRST STAGE: 9 A.M. to 9.5 A.M.

*Red.*—The cavalry scouts of the rear party are retiring down the slopes of Redburn Hill towards Hanley Farm and Garrads Cross, when they are overtaken by Blue advanced scouts. Holding their positions for a time, the Red scouts are enabled to report before falling back, that Blue infantry is advancing on the Upper Bascombe Road, and that a body of cavalry is moving down the road between Ray and Ashdown Hills towards Glenfield Common.

\* When reading the Idea the student should refer to the small scale map of the surrounding country, which is given as a frontispiece, as well as to the special plate at the end of the Exercise.



From the main body of the squadron, which is between Five Roads Cross and Glenfield Bridge, a report is first sent that Chorley and Clip Bridges, lying to the west of the common, are not passable. A second report states that the enemy is coming down the hollow road from Redburn Hill, and that the pioneers of the Red squadron are in consequence preparing Glenfield Bridge for hasty demolition.

The commander of the rear-guard on receiving these reports determines, in order to carry out his instructions, to occupy Hanley Wood with two companies and Garrads Cross with two companies. His other half battalion and the two guns have just crossed Garrads Bridge *en route* to Glenfield. The party of engineers have halted at the bridge. They are ordered to prepare it for destruction with all speed, in order to stop pursuit if required, as the stream is only fordable very high up, near its source. The guns are directed to trot up Rainham Hill, and to come into action on the high ground above Glenfield.

Orders are also sent to the commander of the squadron to hold Glenfield Bridge until it is prepared for demolition, and then to destroy it.

The tail of Red's main column has just left Glenfield and is about to commence the ascent of the hill to Cleveley Park. The head of the column has already crossed Winsley Bridge.

*Blue.*—The squadron which forms the advanced-party has arrived opposite the Manor Farm on Redburn Hill. Here the scouts come in contact with Red scouts, and report the enemy's infantry at Hanley Farm and along the Glenfield Road; also a body of Red cavalry near Five Roads Cross, and a heavy cloud of dust, apparently denoting a strong column, on Rainham Hill beyond the town of Glenfield.

The head of the support, one battalion and one squadron, is on the Upper Bascombe Road, 400 yards in rear of the advanced party. It has detached the squadron to examine Glenfield Common, moving thereto by the hollow road between Ray and Ashdown Hills. The squadron enters this road, preceded by scouts and with flankers on either hill. The scouts reach the common, and come in contact with the scouts of Red cavalry, at the end of the stage.

The head of the reserve, one battalion, two squadrons, and six guns, is 500 yards in rear of the support.

The head of the main column is about 2,200 yards in rear of the point of the advanced-guard.

## SECOND STAGE: 9.5 to 9.15 A.M.

*Red.*—Nos. 1 and 2 companies of the infantry battalion hold Hanley Wood. Nos. 3 and 4 companies maintain position at Garrads Cross. No. 5 company reaches the Royal Arms Inn, Nos. 6 and 7 companies occupy Glenfield, and No. 8 company is on the west side of the town.

The guns come into action at 9.11 A.M., on a spur of Rainham Hill about 400 yards south of Glenfield. From this point they open fire on Blue's infantry, now coming down the south slopes of Redburn Hill.

The squadron having fallen back over Glenfield Bridge, dismounts one troop with carbines to hold the bridge while it is being prepared for demolition. The men take post behind cover on the south bank of the stream close to the bridge. The scouts still remain on the north side of the stream. At the end of this stage they have to fall back before Blue cavalry, one squadron of which arrives at Five Roads Cross as if about to force passage of the bridge. The Blue squadron, however, draws off on report of its scouts and moves at a rapid pace to the west.

By 9.15 A.M. the tail of Red's main column is nearly opposite Cleveley Park House.

*Blue.*—The advanced party of Blue cavalry, following its scouts down Redburn Hill, one troop on each road, finds itself under infantry fire from Hanley Wood. The troops accordingly draw off right and left.

The Blue infantry of the support (the leading battalion) has now come up. Half the battalion is ordered to attack Hanley Wood, and the other half to attack Garrads Cross.

The six guns (horse-artillery) are ordered to trot round by the hollow road, and find a position on the lower slopes of Ashdown Hill. By the end of this stage they have arrived and come into action at a point about 300 yards east of Five Roads Cross, behind a wooded feature,\* which shelters them from view of Red's guns now firing from Rainham Hill.

No. 1 squadron of the Blue cavalry has a troop on each flank of the infantry attack. No. 2 squadron, on arriving at

\* The trees here, which hardly amount to the dignity of a wood, are not shown in the two-inch map; they can be seen in the six-inch map.

the common, is about to attempt to cross Glenfield Bridge, but the scouts reporting that it is strongly held by Red, the commander thinks it better to endeavour to get round the flank by means of Farley Bridge. He accordingly continues his course in that direction. By 9.15 A.M. the squadron has crossed Farley Bridge and proceeded about 300 yards south of it in the direction of Chorley Farm. Nos. 3 and 4 squadrons follow as far as Glenfield Common which they reach at the same hour.

By the end of this stage the left infantry attack has reached Hanley Farm, and the right attack is about the same distance on its way to Garrads Cross. The rear battalion has also come up to Redburn Hill, and is ordered to support each attack with half a battalion. During the last four minutes the right and left attacks have been under the artillery fire of guns from Rainham Hill, at ranges of about 1,600 and 1,900 yards respectively. The guns are firing shrapnel and appear to be heavier than the guns of the Blue force, but so far as can be estimated, they are only two in number.

The Blue main column continues its march in rear.

#### THIRD STAGE: 9.15 to 9.25 A.M.

*Red.*—The Red guns continue their fire as long as the Blue infantry are clear of their own infantry. They then open on the rear battalion in support.

The squadron holding Glenfield Bridge is threatened by two Blue squadrons which have reached Five Roads Cross, and the Red scouts on the north bank have to fall back right and left. Blue scouts, however, on coming towards the bridge are met by the fire of Red dismounted cavalry who are posted behind cover on the south bank. The scouts fall back and Blue cavalry draws off towards Farley Bridge at a rapid pace.

At 9.20 A.M. Glenfield Bridge being prepared for demolition the Red scouts cross over to the south bank, and the bridge is blown up.

The squadron now proceeds to the east of Hook Wood to watch the road which affords passage over the stream near Spring Wood. The scouts report Blue cavalry moving round the flank towards Totley Bridge. Other Blue cavalry is reported to be near Chorley Farm at the end of the stage. These reports are instantly sent on to the commander of the rear-guard.

## ELEMENTS OF MODERN TACTICS.

If the Blue infantry Nos. 1 and 2 companies are retiring gradually from Hanley Wood to Gorsham Hill. Nos. 3 and 4 companies fall back slowly over Garrads Bridge, which is then, at 9.23 A.M. taken up by the sappers who have prepared it for demolition. The companies, on crossing the stream, line the east bank, and keep up their fire on Blue's right attack. No. 5 company takes post behind the hedges of the field belonging to Royal Arms Inn. Nos. 6 and 7 companies are still in Glenfield. No. 8 company has fallen back on Long Wood when it receives orders to proceed to the west side of Rainham Wood, in consequence of a report received by the commander of the movements of Blue.

By the end of this stage the position of Red's main column is half-way between Wansley and Pawley Village.

*Blue.*—The guns on common open fire at 9.15 A.M. on Garrads Cross and Farnley Cross at ranges of 1,000 and 1,500 yards respectively. The left battery is firing at the troops in the wood, employs shrapnel, the other half battery uses common shell, as the Red infantry are sheltering behind the walls and outbuildings of the houses at Garrads Cross. The wooded feature alluded to prevents the Blue guns from bringing Glenfield Bridge under fire.

No. 1 squadron of the cavalry, has a troop on the right rear of the guns, and another troop on the extreme left of the infantry attacking force. By the end of this stage No. 2 squadron has reached the four cross roads on the high ground above Totley Bridge, west of Cleveley Park.

Nos. 3 and 4 squadrons, on reaching the Common, advance on Glenfield Bridge, but their scouts who are out in front, being met with fire from the south bank of the stream, fall back, reporting that the bridge is strongly held by *infantry*. The commander of the Blue cavalry accordingly determines to follow the leading squadron round by Farley Bridge. At 9.25 A.M. he has reached Chorley Farm.

By the end of this stage, also, both attacks of the Blue infantry have succeeded, and the Red infantry is driven out of its positions. The left attack has reached the south edge of Hanley Wood and the right attack has advanced about 200 yards through Garrads Cross. The two half battalions in reserve, are about 300 yards in rear of the supports of the leading companies.

## FOURTH STAGE: 9.25 to 9.35 A.M.

*Red.*—The Red guns continue their fire upon the Blue infantry as opportunities offer. Blue guns are seen moving through Garrads Cross, but the enemy's infantry being the principal arm during this stage, the Red fire is not diverted from it.

The squadron of Red cavalry concealed behind the east side of Hook Wood, has its scouts out on the road which crosses the stream by Spring Wood. They retire before the scouts of Blue cavalry, which on its way to Totley Bridge turns up this road with the evident idea of thus coming quicker upon Red's flank. As the Blue scouts are supported by an advanced party they drive the opposing scouts before them on to the open ground north of Hook Wood. Following up their success they discover the Red squadron, which has moved forward rather too soon, with the intention of charging the head of the enemy's column in flank as it comes into view. The Blue scouts instantly give warning to the rear, in sufficient time for their main body, which is in column of fours on the road near Spring Wood, to go about and retire, covered by its former advanced party. The Red cavalry, having succeeded in its object of keeping Blue cavalry away from this part of the flank, does not follow up in pursuit beyond the open ground, but returns to Hook Wood. At the end of this stage the squadron receives orders to retire over Winsley Bridge.

Of the Red infantry Nos. 1 and 2 companies are driven back to Windmill Hill. Nos. 3 and 4 companies finding that the Blue infantry on the opposite bank is making a flank move to cross the stream higher up near its source, fall back on No. 5 company, and all three companies line the hedges and fences adjoining the Royal Arms. Nos. 6 and 7 companies take post at the houses on the east side of Glenfield, and at the end of the stage open fire at about 500 yards range upon Blue infantry, which has succeeded in crossing the upper part of the stream, and is advancing towards the Royal Arms. No. 8 company has taken post just inside the border of the west side of Rainham Wood, and opens fire upon a Blue squadron which is attempting to turn the flank.

By the end of this stage the tail of Red's main column has just passed through Pawley Village.

*Blue.*—At an early part of this stage the Blue guns, finding

## ELEMENTS OF MODERN TACTICS.

their fire masked by their own infantry, limber up and proceed by Garrads Cross to Triangle Wood, with intention of coming up on to Gorsham Hill.

No. 1 squadron of the Blue cavalry is with the guns at Triangle Wood. No. 2 squadron having reached the Red Lion Public-house near Totley Bridge turns up to the left along the river road, but on nearing Winsley Bridge it receives the fire of Red infantry concealed behind the border of Rainham Wood. The squadron turns and retreats with some loss and in considerable disorder over Totley Bridge, getting behind Totley Wood to re-form. Nos. 3 and 4 squadrons try to cross the stream by the road near Spring Wood, and being frustrated in their attempt continue their advance to Totley Bridge, reaching a point west of Cleveley Park by the end of the stage.

Of the Blue infantry the leading left half battalion followed up by the rear half battalion in reserve, drives the enemy to Windmill Hill. The leading right half battalion, finding Garrads Bridge destroyed, has to force the passage of the stream higher up under both artillery and infantry fire. Having suffered much loss it has been reinforced by its reserve half battalion, and has advanced about midway between the stream and the Royal Arms Public-house.

### FIFTH STAGE: 9.35 to 9.50.

*Red.*—At the commencement of this stage the guns retire and make for Winsley Bridge, coming up just in rear of the squadron of Red cavalry which is retreating from Hook Wood.

As the squadron after crossing the river in column of fours, passes clear of Totley Wood, it perceives a squadron of Blue cavalry behind the south side of the wood. The Red commander immediately forms line to the right, and threatens the enemy, while the two guns, passing on behind the squadron, come into action on the right of the road, masked by the Red cavalry.

Blue cavalry, which appears to be now reinforced by a second squadron, moves forward in echelon of squadrons to attack, but the Red squadron wheeling suddenly to its left discloses the guns, which firing two rounds of case, at about 250 yards range, throw the Blue cavalry into utter confusion. Before it can recover it is charged by Red, and still further broken, being finally forced to retire upon Totley Bridge.

Meantime, however, a third squadron of Blue cavalry has

come up. On crossing Totley Bridge, and seeing how matters stand, its leader promptly wheels it to the left along the river bank, forming column of troops, and galloping round the north side of the wood, with one troop leading and the other in support, falls upon the right flank of the Red guns, which are in the act of limbering up.

The guns are fairly surprised and taken, but the captors do not succeed in carrying them off, for, as they are attempting to do so, some companies of Red infantry crossing Yatton Bridge in retreat, although disordered and in broken formations, bring such fire to bear upon the Blue squadron as to force it to give up its prizes, and to retire also over Totley Bridge.

The Red infantry during this stage is driven across the bridges; Nos. 1 and 2 companies in utter disorder over Stanton Bridge, and what remains of the other companies, through Rainham Woods, over Yatton and Winsley Bridges. Some of the men crossing the latter bridge arrive in time to save the Red guns as related.

In the withdrawal over the river, the rear-guard is assisted, for the last half of the stage, by the guns of the Red main column from Churton Hill.

By the end of the stage the Red main column has fully reached Churton Hill, and has taken up its intended position thereon.

*Blue.*—At 9.40 A.M. four of Blue's guns come into action on the western crest of Gorsham Hill, against Red infantry retiring upon Rainham Wood. They fire shrapnel with great effect, at a range of about 1,000 yards. At the same time the remaining two guns take post on Windmill Hill, to shell the companies retreating over Stanton Bridge, with indirect fire, at 900 yards range.

No. 1 squadron of the cavalry is with the guns. The position and action of the other three squadrons have been shown.

Both attacks of the Blue infantry succeed. Windmill Hill is cleared of its defenders, such as are left of whom retire, completely demoralised, over Stanton Bridge. Glenfield is turned, and the Red companies holding it are cut off in their retreat, the greater part of the officers and men being killed or made prisoners. The right attack of Blue, when advancing from Gorsham Hill, receives assistance from the reserve half battalion of the left attack.

Towards the end of the stage, the fire of the Blue guns

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